

2009 ANNUAL REPORT



FY 2008-2009



**Florida Department of Agriculture
and Consumer Services
Charles H. Bronson, Commissioner**

Introduction

This annual report summarizes the activities of the Florida Department of Agriculture and Consumer Services during fiscal year 2008-2009. The report is organized according to the Department's major functions, which include supporting Florida agriculture, promoting Florida agricultural products, ensuring a safe and wholesome food supply, preserving the natural environment, and safeguarding consumers.

With over 3,000 employees organized under 18 divisions and offices, the Department is the largest and most diverse state agriculture agency in the country. Our responsibilities are so varied and extensive that it is difficult to imagine any Floridian whose life is not touched by the work we do.

Support services offered to agriculture by the Department include collecting statistics on production, administering animal health programs, testing feed, seed, and fertilizers, and conducting plant protection, inspection, and certification programs.

The Department also supports the agricultural industry by promoting its products through campaigns that raise public awareness and increase sales. The Department's award-winning "Fresh from Florida" campaign continues to promote Florida agricultural products across the country and around the world. In addition, the Department operates 13 wholesale farmers' markets right here in Florida that support agricultural commerce.

The Department ensures the safety and wholesomeness of Florida's food supply through rigorous inspection and testing programs. Our Division of Food Safety monitors food from farm gate through distribution and processing to retail point of sale. Department personnel regularly inspect everything from packinghouses to grocery stores, and our labs perform thousands of sophisticated analyses of food samples each year. We test fruits and vegetables for pesticide residues, dietary supplements for dangerous ephedrine alkaloids, and milk for contamination with residues of antibiotics. To prevent the spread of food-borne illness, the Department has the authority to halt the sale of any product considered hazardous to the public.

The Department is dedicated to creating a sustainable future for agriculture and for all Floridians by protecting the state's natural resources. We manage pesticides to avoid groundwater contamination and protect federally listed endangered species. We work to control tropical soda apple, pink hibiscus mealybug, redbay ambrosia beetle, and other invasive exotic plants and animals that threaten agriculture and natural ecosystems. Collaborating with growers throughout Florida and with scientists at the University of Florida and other agencies, the Department develops pollution-preventing farming methods known as Best Management Practices.

The Department is Florida's lead agency for consumer protection. Our Division of Consumer Services has responsibility for regulating various business industries operating in Florida, and it conducts investigations of unfair and deceptive trade practices. In addition, the division functions as the Consumer Product Safety Commission's liaison in Florida regarding product recalls, inspections, and investigations. Consumer education is the division's main focus. Each year, division personnel distribute thousands of educational brochures, speak on consumer issues at community meetings, and handle the nearly quarter million calls and emails that come to our Consumer Assistance Call Center.

Supporting and promoting agriculture, preserving the environment, assuring the safety of food, and protecting consumers – these are the Department's vital functions. And as we work each day to carry them out, we are continually looking for ways to increase our efficiency and effectiveness, especially now during these difficult financial times. This annual report details our efforts in 2008-2009.

Letter from the Commissioner



In February 2009, in the midst of so much dire economic news, the USDA released a new report showing solid gains for Florida agriculture. According to the report, the number of Florida farms and the value of Florida agricultural products sold rose substantially from 2002 to 2007. Agriculture remains one of Florida's most important economic engines, generating an estimated \$100 billion overall economic impact and contributing \$2.98 billion in indirect taxes to local, county, and state governments.

The USDA report came at a time when we all really needed some positive economic news. And I'm glad that my message to you now can be encouraging too. Money may have been tight, but fiscal year 2008-2009 was an eventful and productive year for our Department. We were active on a wide range of issues, including control of exotic and invasive species, wildfire prevention, food safety, and consumer protection. We promoted Florida agricultural products here at home and as far away as Seoul and Bangkok.

A strong agriculture industry depends on a healthy environment, and protecting the state's natural resources is part of the Department's mission. This year, despite budget constraints, we were able to

launch a number of new conservation initiatives. Our Division of Forestry started a pilot cost-share program to help forest landowners treat infestations of cogongrass, a noxious weed that degrades wildlife habitat and threatens forest productivity. We also established a statewide program to trap the emerald ash borer, a destructive beetle that kills ash trees, important components of our urban and wildland canopy. In August 2008 recent land purchases in Seminole County – over 9,000 acres – were designated as a new state forest.

Many parts of the state suffered drought conditions during much of the year. In the spring of 2009, Florida experienced twice the wildfire activity that it did the previous spring. To protect wildlands and private property, our Division of Forestry launched an aggressive fire-prevention campaign. Federal stimulus funds allowed the division to expand its efforts, which included not only public education but prescribed burning, mowing, and other activities to reduce hazardous fuel loads.

We protect the environment and we protect Floridians. During this fiscal year our Division of Consumer Services worked to educate the public about email scams and identity theft. We conducted sweeps of pawnshops to make sure they were properly licensed and brought law suits against companies for violating Florida's "Do Not Call" law. We teamed with other state agencies to investigate complaints about Chinese drywall containing potentially toxic compounds, and we assisted the FDA when salmonella outbreaks in peppers led to two national recalls.

Letter from the Commissioner

We also worked to make Florida the first state to prohibit the production and sale of adulterated honey – honey cut with corn syrup or contaminated with insecticides and antibiotics. These new regulations protect consumers and will be a boon to Florida's struggling beekeepers whose pure, wholesome products had been forced to compete against a flood of cheap, adulterated honey from overseas.

This past year we continued to make progress in our Farm to Fuel Initiative. In July 2008 we hosted our third annual Farm to Fuel Summit, which attracted hundreds of stakeholders interested in renewable energy. We also continued to administer grants awarded under the Farm to Fuel Grant Program, with many of the projects making significant progress. In addition, we continued to remain active in the national 25x'25 initiative to advance the vision of promoting the production of renewable energy while reducing our dependence on foreign oil.

We at the Department are proud of the work we do to support and promote Florida agriculture – because a strong agriculture industry means a more prosperous Florida. The Department is statutorily mandated to provide professional marketing services to Florida's agricultural community through its Division of Marketing and Development. This year our staff promoted Florida products at numerous trade events and conducted trade missions to India, Egypt, France, Saudi Arabia, Korea, and China.

The 2008-2009 fiscal year was a busy and challenging one at the Florida Department of Agriculture and Consumer Services. I've only just touched the surface here. This annual report will provide you with more information about our many programs, activities, and services.

Sincerely,



Charles H. Bronson,
Comissioner of Agriculture



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SUPPORTING FLORIDA AGRICULTURE

Statistical Reporting

Reliable information is essential to making production, marketing, and policy decisions for the agricultural community. The Florida Department of Agriculture and Consumer Services shares in a cooperative federal-state program responsible for collecting and disseminating Florida agricultural statistics. Information on the state's major commodities is gathered through onsite producer surveys, voluntary mail questionnaires, and telephone and personal interviews. Statistics compiled from these data are available in over 200 reports issued annually.

This year as part of its public awareness efforts, the Florida Agricultural Statistics Service staffed an informational booth at industry trade shows for citrus, cattle, and nursery producers. The booth allowed the service to promote its role in the industry and increase the visibility of its reports. Results of the 2007 Census of Agriculture were released February 4, 2009.

Citrus

An initial citrus production forecast is issued in October and modified monthly through the citrus season based on fruit size measurements and observations on drop rate. These forecasts are based exclusively on objective data obtained directly by field personnel, including an extensive limb-count survey conducted from July to September to estimate fruit set per tree. Florida's citrus growers produced an estimated 162.1 million boxes of all oranges and 21.7 million boxes of grapefruit in the 2008-2009 season.

Cash receipts for all citrus crops sold in 2008 totaled \$1.62 billion compared to \$1.68 billion in the 2007 season. Citrus accounted for 20.4 percent of all cash receipts in 2008.

Vegetables

Florida growers harvested fresh market vegetables from 225,900 acres in 2008. Cash receipts for all vegetables amounted to \$1.96 billion, which amounted to 24.5 percent of all cash receipts in 2008. Tomatoes, peppers, snap beans, sweet corn, and cucumbers accounted for the largest amount of sales among vegetable crops.

Greenhouse and Nursery Production

The total value of Florida greenhouse and nursery production exceeds \$1.93 billion. The foliage and floriculture industry contributed \$922 million, down from \$968 million in 2007.

Berries and Melons

Strawberry production for 2008 was down from the year before, resulting in cash receipts of \$249.4 million compared to \$261.9 million in 2007. Lower prices for watermelons were offset by higher acreage and yield resulting in a slight increase in their total crop value to \$140.4 million in 2008.

Field Crops

Potato prices in 2008 were below the previous year, resulting in lower cash receipts of \$129.7 million to growers. Sugarcane production was down from the previous year, with total cash receipts decreasing to \$442.2 million in 2008. Cash receipts for peanuts increased to \$88.3 million, due to increased production in 2008. Decreases in the prices for cotton and cottonseed produced cash receipts of \$42.1 million in 2008, compared to \$42.2 million in 2007.



Other Fruits and Nuts

Receipts for other fruits and nuts, such as avocados, blueberries, pecans, and miscellaneous fruit and nuts, at \$84.3 million, were up from \$80.6 million in 2007.

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Dairy

Higher milk prices in 2008 resulted in increased cash receipts of \$464.2 million compared to \$459.2 million in 2007. The annual average farm gate price for milk in Florida was \$22.60 per cwt in 2008, up from \$21.90 in 2007.

Cattle and Calves

The total number of cattle and calves on January 1, 2008 was 1,700,000 head, down 10,000 from 2007. Lower prices resulted in cash receipts of \$405.1 million compared to \$449.1 million in 2007.

Poultry and Eggs

Egg sales in 2008 totaled \$234.5 million, up from \$186.5 million in 2007 due to higher egg prices. Broiler prices were up in 2008 but sales decreased to \$169.4 million from \$179.7 million in 2007.

Aquaculture

Aquaculture contributed an estimated \$62 million to total cash receipts. Tropical fish and aquatic plants accounted for the majority of the sales in this category.

Honey

Florida was fourth in the nation in honey production in 2008 (behind North Dakota, South Dakota, and California) with 11.9 million pounds valued at \$15.4 million. There were an estimated 150,000 colonies in the state in 2008 with an average honey yield of 79 pounds per colony, eight pounds per colony more than in 2007.

Fruit and Vegetable Inspection

The Division of Fruit and Vegetables serves as a third party to provide on-request inspections for the purpose of certifying the quality and condition of produce shipped in and out of the state to national and international markets. The Department's services, provided in cooperation with the U.S. Department of Agriculture's Agricultural Marketing Service, enhance the marketability of fruit and vegetables produced and imported into Florida. Committed to meeting the needs of Florida's fruit and vegetable industries through fiscally responsible quality assurance and technical assistance services, the division constantly strives to find innovative and cost-effective methods of inspection.

Agricultural Dealer's Licenses

The Department continued to assist Florida producers in reducing their financial risk through its administration of Florida's Agricultural License and Bond Law. This law ensures that Florida producers of agricultural products covered by the license and bond provisions receive proper accounting and payment for their products.

During fiscal year 2008-2009 the Department issued 5,665 licenses and collected \$1,032,667 in license fees and delinquent penalties. The Department received 205 claims against agricultural dealers. Claims against dealers in agricultural products must be filed within six months from the date of sale and total a minimum of \$500. There were 186 claims settled in the past year resulting in the recovery of \$1,338,447 on behalf of Florida agricultural producers.

The Department closely monitors dealers to make sure they maintain adequate bonds to protect Florida growers. Department associates conducted 784 compliance audits of dealer's records during the year. These audits are designed to ensure that bond amounts are maintained, to determine whether unlicensed dealers were exempt from license and bond requirements, to determine if prospective licensees were conducting business in a manner requiring licensure, and to document violations of Department enforcement actions.

The Department opened 199 new enforcement cases, closed 176 cases, and collected \$160,180 in administrative fines during the 2008-2009 fiscal year. Enforcement actions resulted in an additional \$2,166,173 of bond protection for Florida growers.

State Farmers' Markets

The Bureau of State Farmers' Markets manages four major program initiatives: State Farmers' Markets; Community Farmers' Markets; Women, Infants, and Children/Farmers' Markets; Nutritional Program (WIC/FMNP); and County Fair Permitting.

State Farmers' Markets tenants and clients marketed \$521 million in wholesale value of produce, dairy, frozen seafood, and value-added products during fiscal year 2008-2009. The bureau operated 13 wholesale farmers' markets during the fiscal year. These markets offer a mix

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of wholesale and retail produce and attendant services such as produce refrigeration, truck weigh scales, farm supply, restaurants, and produce brokerage sales as well as produce and freight shipping companies. At year's end the available space for market tenants was 79 percent leased for a total of more than 1.6 million square feet of warehouse, office, and parking space.

Hurricane repair projects on the affected state market sites have made major strides in the recovery from the devastating storms of 2004 and 2005. Of the sites damaged by the storms of 2004, the repairs at Sanford, Fort Myers, and Wauchula have been completed. The Sanford hurricane reconstruction project expenses were \$675,000, the Fort Myers hurricane reconstruction expenses were \$5.9 million, and the hurricane reconstruction expenses in Wauchula were \$3.7 million. The Fort Pierce State Farmers' Market site reconstruction projects continue with a guaranteed maximum cost of \$19,483,862 and are expected to be completed by August 2008 at an estimated total cost of \$18 million. The Immokalee State Farmers' Market hurricane reconstruction has an anticipated total project cost of \$9 million to \$10 million and is currently being formally appealed with FEMA.



More than 230 farmers operating at over 20 community retail markets participated in the Women, Infants, and Children/Farmers' Market Nutrition Program (WIC/FMNP) this year. By promoting the consumption of fresh fruits and vegetables to WIC mothers and children, this program encourages a healthy diet while boosting farmers' sales at participating locations. The program was offered in 16 counties and provided over 30,000 WIC recipients with information about proper nutrition

and the importance of fresh fruits and vegetables in their daily diets.

The County Fair Permitting Section issued permits for 52 fairs. Approximately \$200,000 was distributed to these fairs and other public organizations as agricultural premium and awards reimbursements. These awards encourage participation by Florida's youth in agricultural programs.

The popularity of retail farmers' markets continues to grow in Florida. There are more than 100 retail markets promoted on the Department's web site.

Livestock and Domestic Animals

The Division of Animal Industry enforces state animal health regulations to prevent, control, and eradicate infectious or communicable diseases of livestock and domestic animals. The division also works to protect the state from animal pests and diseases that threaten economic and public health. Through the efforts of the Bureau of Animal Disease Control and Bureau of Diagnostic Laboratories, the division:

- Monitors livestock and poultry on farms and ranches and at animal concentration points for disease status and carries out intensive animal disease investigations utilizing state-of-the-art laboratory testing for the diagnosis of domestic diseases, as well as emerging and potential foreign animal diseases.
- Works with producers and other cooperators to control animal diseases to ensure the health of the animal industries and to ensure safe and wholesome animal food products.
- Regulates, administers, and enforces laws relating to animal health to prevent the introduction of diseased animals into Florida and to prevent the spread of diseases within the state.
- Monitors companion animal health issues, provides consumer protection assistance, and supports rule and legislation development to ensure the overall health of small animal populations and industries in Florida.

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- Provides information to livestock and poultry producers, private practitioners, and the public about regulatory requirements and Best Management Practices through news releases, brochures, the Internet, and personal visits.
- Develops, implements, and tests emergency response plans in the event of foreign animal diseases and other natural or manmade disasters affecting animals and animal food production.

Emergency management is also a responsibility of the division. Eighteen Emergency Support Functions (ESFs) were established in the Florida Comprehensive Emergency Management Plan. Each ESF is headed by a lead or primary agency or organization, which was selected based on its authorities, resources, and capabilities in that functional area. The Division of Animal Industry is the primary lead responder for ESF-17, which was organized to ensure rapid response to animal and agricultural needs in a disaster or emergency scenario.

Animal Disease Control

The Department, through the Division of Animal Industry, is responsible for administering the state's animal disease prevention, control, and eradication programs. In cooperation with the U.S. Department of Agriculture, the Florida Department of Health, and the Florida Fish and Wildlife Conservation Commission, the Department has moved beyond traditional perceptions of animal disease control and eradication by addressing public health and wildlife issues and major economic impacts by developing new programs. The re-emergence of brucellosis and tuberculosis and intermittent outbreaks of Vesicular Stomatitis and pathogenic Avian Influenza in other states emphasize the necessity of having a strong, active animal disease monitoring program in place with an open line of communication with public officials. The division also monitors health concerns in a wide variety of exotic animal collections. Concerns regarding exotic and non-traditional species of animals may be initiated by the facility, other agencies, or other interested parties, in addition to the division's routine monitoring practices. Primates and elephants are monitored and sometimes quarantined for tuberculosis, and birds and other exotic animals have been occasionally affected with foreign or zoonotic diseases.

Rather than perceiving disease control and eradication programs as bureaucratic obstacles, the public is demanding that more be done to protect the nation's animal-origin food supply and companion livestock. These needs – as perceived by the producer, the consumer, and associated animal industries – will influence the overall acceptability and effectiveness of future disease control and eradication programs.

The Department's program activities take into consideration the changing face of animal industries in Florida and throughout the United States. Numerous species previously considered exotic or wildlife have straddled or crossed the line between wildlife and agriculture. Government and industry are faced with challenging learning curves in veterinary medicine and disease-risk analysis for unfamiliar species, with few or no precedents. The Department recognizes the need to include these emerging animal industries with traditional livestock industries so they can coordinate and respond to a greater range of issues.

Animal Identification and Traceability

The threat of a foreign animal disease outbreak or other animal health event in the United States is real. Unfortunately, the timing and severity of an outbreak are impossible to predict. The division has worked with the National Animal Identification System (NAIS), a USDA information system designed to enable producers and animal health officials to respond quickly and effectively to animal health events in the United States. The foundation of the system is a database of premises where livestock, poultry, and equine are held. The NAIS program is a voluntary state-federal-industry partnership that will help to protect livestock, poultry, and equine owners and reduce hardships caused by an animal disease outbreak or other animal health event.

The individual animal identification component is intended to identify all agricultural animals as they come into contact with, or are intermingled with, animals other than herd mates from their premises of origin. The USDA long-term goal is to establish a system that can identify all animals that have had direct contact with a foreign animal disease or domestic disease of concern within 48 hours of discovery. Further development of a nationwide animal identification and tracking system

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will help secure the health of the national herd and ensure consumer confidence.

The NAIS is being implemented by the Division of Animal Industry on a voluntary basis. Since 2004 Florida has entered into cooperative agreements with the USDA to implement a premises identification system and work with producers and industry groups on pilot animal identification projects. Division personnel continue to work with producers and industry leaders to develop practical approaches to meet the animal health and animal movement challenges of today's global marketplace.

As of June 30, 2008, a total of 7,791 Florida premises were registered. These premises include all species of livestock and each of Florida's USDA-approved livestock auction markets. Florida was the first major cattle-producing state to have 100 percent registration of its livestock markets. It is estimated that more than 85 percent of Florida's total cattle inventory is now housed on registered premises. Across all species, the premises which have been registered represent the core of the commercial livestock industry. The inclusion of additional premises will increase the effectiveness of disaster response capabilities. The Division of Animal Industry continues to share information with and receive input from industry leaders representing all included species.

Pilot projects continue to test the utility of electronic animal identification for tracking and ranch management. Participating producers view the feedback of performance and health-related information as an increasingly valuable ranch management and marketing tool.

Several of Florida's major ranches have electronically identified each animal in their producing herds as well as each calf crop. Individual electronic identification of the brood cows provides for enhanced management and recordkeeping. Individual identification of the calves allows the return of production data for management decisions and also allows the calves to be marketed as source-verified. The Seminole Tribe of Florida has utilized electronic identification and has been a leader in its efforts in this program.

The equine segment of the NAIS has included education and outreach, premises registration, and individual horse identification using microchips. The equine

microchipping project received positive feedback from the equine community as a rapid, reliable form of individual identification for horses. This technology can also be used to monitor movement through the state's Agricultural Interdiction Stations.



The Florida Equine Passport Card program has continued to grow with over 626 cards being issued during this fiscal year. Twelve states now accept the Florida Equine Interstate Passport Card, which extends the duration of the Official Certificate of Veterinary Inspection (OCVI) from the standard 30-day period to six months, for interstate movement to equine events. The negative Equine Infectious Anemia (EIA) Verification Card has also been received well by the horse owners as an alternative to the paper Coggins form used for intrastate movement. During fiscal year 2008-2009, 717 EIA verification cards were issued. One of the requirements to receive either card is a completed NAIS premises registration application.

Animal Movement

The monitoring of the movement of livestock and poultry into Florida by the Official Certificate of Veterinary Inspection is the Department's first line of defense against the inadvertent importation of animal diseases. When diseases threaten livestock and poultry in other parts of the country, the Department may enact additional regulations for animals being imported into Florida, often requiring prior notification, permission, and permitting from the Department before shipments are allowed into Florida through the Agricultural Interdiction Stations.

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Health Certificates

During fiscal year 2008-2009, the division processed 39,427 certificates representing more than 661,077 animals moving into or out of Florida. Beef and dairy cattle were the most numerous animals shipped, while horses accounted for the highest number of shipments moving through Florida. Other species accounting for much of the animal movement into and out of Florida were swine, goats, sheep, and exotic species. This number does not include the numerous poultry or small animal movements. All livestock transported into Florida are subject to certificate verification by Agricultural Law Enforcement officers.

Carcass Hauler Permits

The purpose of the Carcass Hauler Permits program is to prevent, control, or eradicate diseases that may be transmissible to other animals or humans. During fiscal year 2008-2009, 494 permits were issued. By June 30 of each year, individuals or businesses are required to apply for and receive a permit to haul any dead, dying, disabled, or diseased animal, any product of an animal that died other than by slaughter, or any inedible animal product not meant for human consumption.

Livestock Haulers Permits

The purpose of the Livestock Haulers Permits program is to protect owners of animals and legitimate businesses that haul livestock by improving control over livestock thefts and other illicit livestock operations. During fiscal year 2008-2009, the division issued 1,852 livestock hauler permits/tags. These permits/tags are required for each vehicle hauling or transporting livestock for hire on Florida's public roads or highways.

Marks and Brands Program

Livestock brand registration was centralized at the state level in 1945. The change from county- by-county registration was instituted to prevent duplication of brands by different owners, especially as commerce and trade increased among different parts of the state.

In fiscal year 2008-2009, the division issued 225 new brand certificates, transferred 31 brands, and renewed 853 certificates. Currently, the total number of brands registered in Florida is 5,403. Branding of livestock in Florida is not required, but, if done, owners must register their brands with the state.

Poultry

Several important diseases can have a disastrous impact on the poultry industry if allowed into the state. In an effort to carry out its mission of surveillance, prevention, and control, the division conducts inspections of poultry premises, live bird markets, small animal sale markets, botanicas, fairs and exhibitions, imported birds, and backyard flocks in accordance with state rules and regulations and USDA's National Poultry Improvement Plan (NPIP). Through these programs, information on disease control and biosecurity on the farm has been distributed throughout the state in an effort to inform the public about their role in controlling these diseases.



Avian Influenza

Due to the recent outbreaks of Avian Influenza (AI) H5N1 in other countries and in response to increased public concerns, AI surveillance has become a major focus for the Department and the Division of Animal Industry. An Avian Influenza State Response and Containment Plan was developed and a Poultry Emergency Disease Committee was established. Members on the committee consist of state, federal and industry representatives. In cooperation with the USDA, the expanded Avian Influenza surveillance program now includes sample collection and inspections at botanicas, live bird markets, animal sale markets, fairs/exhibitions, backyard flocks, upland game birds, sick bird investigations, and commercial flocks.

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Globally, there are many different strains of AI virus causing a variety of clinical illnesses in poultry. Viruses can infect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl, as well as a wide variety of other birds. Migratory birds, especially waterfowl, have been shown to act as a natural reservoir for the less-infectious strains of the disease. AI viruses can be classified into low pathogenicity (LPAI) and high pathogenicity (HPAI) based on the severity of the illness they cause. HPAI is the highly transmissible and lethal form of the disease that spreads rapidly once established. Because some LPAI viruses can mutate into HPAI viruses, surveillance for both is extremely important. Although Florida has not detected HPAI and the United States has not detected the Asian strain of H5N1, Florida has greatly increased its scrutiny and testing of birds in all facets of the industry for the presence of this deadly strain.

Department-authorized agents tested 132 small animal sale markets, botanicas, and live markets for AI, resulting in 4,184 birds tested. Over 689 commercial poultry premises were tested and 10,946 samples were submitted for AI in accordance with the NPIP AI monitoring program.

Pullorum Disease Program Work

Fowl Typhoid (FT) and Pullorum Diseases (PD), affecting chickens and turkeys primarily, are caused by *Salmonella gallinarum* and *Salmonella pullorum*, respectively. Clinical signs in chicks and poults include anorexia, diarrhea, dehydration, weakness and high mortality. In mature birds, FT and PD signs are decreased egg production, decreased fertility and hatchability, and anorexia and high mortality rates. If allowed to spread, these diseases can have damaging effects on the poultry industry. In conjunction with the USDA's National Poultry Improvement Plan (NPIP) program, the state tests birds for Pullorum Typhoid (PT) and other deadly contagious poultry diseases.

A total of 307 NPIP program flock inspections were conducted during fiscal year 2008-2009. At these NPIP premises, there were 6,836 birds tested for PT and 3,174 birds tested for AI during this fiscal year. Department-authorized agents continue to inspect and test for PT and AI on poultry coming into fairs for exhibition. During 2008-2009, the Department inspected 9,174 birds

at 57 fairs. Authorized agents tested 3,823 of the birds exhibited at the fairs for PT and 794 for AI.

Other Poultry Program Work

Monitoring and surveillance activities for *Mycoplasma gallisepticum* (MG), *Mycoplasma synoviae* (MS) and AI on commercial poultry breeding flocks were also continued. During fiscal year 2008-2009, 148 flocks were tested and 7,243 samples were submitted to the division's diagnostic laboratories for MG and MS testing.

The division continues to conduct quarterly hatchery inspections at commercial egg, meat, and turkey premises in accordance with the NPIP; seven inspections were performed and 252 samples were submitted to the state diagnostic laboratories. The division also investigates all sick bird and unusual dead bird reports and (when possible) takes samples for testing for Avian Influenza and Pullorum Typhoid. During fiscal year 2008-2009, the Department conducted 60 sick bird investigations representing 369 birds being tested for AI. Department inspectors also conducted routine inspections of dead bird disposal methods at commercial poultry farms. During the 2008-2009 fiscal year, 357 such inspections were conducted.

The Poultry Best Management Practices (BMPs) Quality Assurance Program in the Suwannee River Water Management Area was implemented in 2001. Currently, 199 poultry farms are enrolled in the program and inspected by division staff.

The division maintains a poultry database for permitting all poultry and eggs imported into the state or transshipped through Florida to other countries. During fiscal year 2008-2009, 1,593 import permits and 1,297 transshipment permits were issued, representing 22,428,015 live birds and 29,491,713 dozen hatching eggs.

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Cattle

During the 2008-2009 fiscal year, 394,386 cattle were inspected at livestock markets.

Brucellosis

Brucellosis is a contagious, costly disease of ruminant animals that also affects humans. Although brucellosis can attack other animals, its main threat is to cattle, bison, and swine. The disease is also known as contagious abortion or Bang's disease. In humans it is known as undulant fever because of the severe intermittent fever accompanying human infection, or Malta fever because it was first recognized as a human disease on the island of Malta. The disease is caused by a group of bacteria known scientifically as the genus *Brucella*. Three species of *Brucella* cause the most concern: *B. abortus*, principally affecting cattle and bison; *B. suis*, principally affecting swine and reindeer but also cattle and bison; and *B. melitensis*, principally affecting goats but not present in the United States. In cattle and bison the disease currently localizes in the reproductive organs and/or the udder. Bacteria are shed in milk or via the aborted fetus, afterbirth, or other reproductive tract discharges.

There were 273 herds representing a total of 53,962 cattle tested in the field for brucellosis during the fiscal year, with no reactors. An additional 169,569 cattle were tested at slaughter with 10 positive tests. None of the animals tested positive for *B. abortus*, and the state maintains the classification of Class Free. At livestock markets 663 cattle were tested, with none found to be infected. During the same period 67,254 cattle were vaccinated against brucellosis.



Tuberculosis

Tuberculosis (TB) is a contagious disease of both animals and humans. It is caused by three specific types of

bacteria that are part of the *Mycobacterium* group: *Mycobacterium bovis*, *M. avium*, and *M. tuberculosis*. Bovine TB, caused by *M. bovis*, can be transmitted from livestock to humans and other animals. No other TB organism has as great a host range as bovine TB, which can infect all warm-blooded vertebrates. *M. avium* can affect all species of birds, as well as hogs and cattle. *M. tuberculosis* primarily affects humans but can also be transmitted to hogs, cattle, and dogs.

Last year in Florida, 78 herds were tested for tuberculosis. Within these herds 874 head of cattle were tested and no cattle were found to be infected. Surveillance sampling of tuberculosis-like lesions in slaughter cows yielded no positive animals.

Transmissible Spongiform Encephalopathies

Transmissible Spongiform Encephalopathies (TSE), or prion diseases, are rare forms of progressive neurodegenerative disorders that affect both humans and animals and are caused by agents that produce changes in the brain. TSE typically have incubation periods ranging from months to years before symptoms become apparent. No conventional serologic test can identify TSE-infected animals, and so TSE are usually identified from the brain tissue of dead animals. There is no vaccine or cure for these diseases, and once symptoms appear, TSE are invariably fatal.

The TSE family of diseases includes: Bovine Spongiform Encephalopathy (BSE); scrapie, which affects sheep and goats; Transmissible Mink Encephalopathy (TME); Feline Spongiform Encephalopathy (FSE); Chronic Wasting Disease (CWD) of deer and elk; and in humans, kuru, both classic and variant Creutzfeldt-Jakob Disease (CJD and vCJD), Gerstmann-Straussler-Scheinker syndrome, and fatal familial insomnia. TSE have also been reported in captive exotic ruminants, and in exotic and domestic cats. The agent isolated from several of these cases is indistinguishable from BSE in cattle, suggesting the occurrence of TSE in these species resulted from BSE-contaminated feed.

Bovine Spongiform Encephalopathy (Mad Cow Disease)

Bovine Spongiform Encephalopathy (BSE), widely referred to as "mad cow disease," was first diagnosed in 1986 in Great Britain. BSE was discovered in Canada

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in 2003, in Washington State in 2004, in Texas in 2005, and in Alabama in 2006. The BSE-infected cow from Washington State was later found to have originated from a Canadian herd. These isolated cases generated a rapid response from state and USDA officials, and resulted in new control, testing, and surveillance programs designed to rule out and prevent further cases in U.S. herds. The Department continues to work with federal and state partners to conduct surveillance and to prevent the introduction of BSE from foreign sources. Federal funding for enhanced surveillance ended in December 2006 with future testing limited to suspect cases.

Johne's Disease

Johne's disease is a contagious, chronic, and usually fatal infection that affects primarily the small intestine of ruminants. All ruminants are susceptible to Johne's disease. Johne's disease is caused by *Mycobacterium paratuberculosis*, a hardy bacterium related to the agents of leprosy and tuberculosis. The disease is worldwide in distribution. Signs of Johne's disease include weight loss and diarrhea with a normal appetite. Several weeks after the onset of diarrhea, a soft swelling may occur under the jaw (bottle jaw). Bottle jaw, or intermandibular edema, is due to protein loss from the bloodstream into the digestive tract. Signs are rarely evident until two or more years after the initial infection, which usually occurs shortly after birth. Animals are most susceptible to the infection in the first year of life.

As of June 30, 2009, the Florida Voluntary Johne's Program had 97 dairy and beef operations enrolled. For fiscal year 2008-2009, the Live Oak Diagnostic Laboratory conducted 22,638 tests.

As of December 31, 2008, federal funding for the Johne's Program ended. The Johne's Dairy Demonstration Project has also been discontinued due to lack of funding. Johne's testing has been steadily decreasing following elimination of federal funding. Division personnel will continue to work with producers in developing and implementing herd plans to control this disease.

Small Ruminants (Sheep and Goats)

During fiscal year 2008-2009, the Department inspected 10,842 small ruminants at livestock markets and 33,133 sheep and goats at small animal sale markets. Division staff also inspected 18,690 goats and sheep on farms or assembly points.



Tuberculosis

Tuberculosis (TB) in goats and sheep, though considered a rare occurrence, is caused by one or more of the three types of *Mycobacterium*: *M. bovis*, *M. avium*, and *M. tuberculosis*. *M. bovis* infects all warm-blooded vertebrates, including humans, while *M. avian* is the species that causes most of the infections in sheep. The bacterium can be transmitted to humans via milk, so dairy herds should be tested. Thirty-six sheep and 420 goats were tested for tuberculosis and all were found to be negative. There are 12 certified tuberculosis-free goat herds in Florida.

Brucellosis

Brucellosis is more common in goats than in sheep, and is caused by *Brucella melitensis* in other parts of the world. The sign most often associated with brucellosis in goats is abortion, but not all animals that abort have brucellosis and not all brucellosis-infected animals will abort. The organism can be transmitted via blood, vagi-

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nal discharge, milk, aborted fetuses, and placenta. The danger of human infection and economic losses makes this another important disease to control and eradicate. Fifty-one sheep and 981 goats were tested for brucellosis and all were found to be negative. There are 11 certified brucellosis-free goat herds in Florida.

Scrapie

Scrapie is one of a number of diseases of ruminants classified as Transmissible Spongiform Encephalopathies (TSE). Scrapie affects the central nervous system of sheep and goats, but clinical signs may not appear until the animal is five years of age or older. The USDA's Voluntary Scrapie Flock Certification Program provides participating producers with the opportunity to protect their sheep from scrapie and enhance the animals' marketability by having them certified scrapie-free. Florida now has 24 flocks/herds participating in this program, and three certified flocks/herds. Under USDA-APHIS rules and regulations, and the Scrapie Eradication Uniform Methods and Rules, all sheep and goats in Florida are required to have an official USDA-APHIS-approved tamper-resistant individual animal identification tag. Four hundred and eighty-nine premises obtained scrapie tags under this program for fiscal year 2008-2009.

Equine

Contagious Equine Metritis

Contagious Equine Metritis (CEM) is a highly contagious reproductive disease that can affect all equids and is caused by the bacterium *Taylorella equigenitalis*. The infection can result in short-term infertility in mares that is sometimes associated with a vaginal discharge and, rarely, abortion. Mares can become inapparent carriers of the bacterium in their reproductive tracts and can shed the organism into the environment and transmit it through subsequent breeding. Stallions do not develop clinical signs but can carry the organism on their genitalia for years and spread the disease by breeding susceptible mares.

Currently, there are at least 25 countries and territories where CEM is considered endemic, including a number of the member states of the European Union. CEM is a serious venereal disease because it is highly contagious. There is no vaccine against CEM, but there are ways to detect infected horses and to rid infected stallions and mares of the bacterium via treatment and testing protocols.



CEM is considered an exotic disease in the United States, which means it is not found in the native horse population; however, there is currently an outbreak of CEM in the United States. The CEM organism was detected in a domestic stallion during routine testing in Kentucky, in December 2008. During the subsequent investigation 960 horses in the United States were determined to have been exposed, and 27 horses tested positive for the CEM bacterium. In Florida, Division of Animal Industry staff traced and tested 30 exposed mares and eight exposed stallions. No Florida horses were found to be positive during the investigation.

Florida utilized 28 Approved CEM Quarantine Facilities to handle the CEM importation requirements for horses entering the United States. During fiscal year 2008-2009, 183 imported stallions and mares were processed through these facilities. There were no positive horses detected.

Equine Infectious Anemia

Equine Infectious Anemia (EIA), also known as "swamp fever," is an incurable blood-borne disease that affects only members of the equine species. It is transmitted primarily by large biting flies but may also be transmitted by contaminated needles and surgical instruments

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and through breeding. Once an animal is infected, it remains infected for the rest of its life. While some horses die from acute infections, most remain as seemingly symptomless carriers. However, infected animals are still capable of transmitting the disease and pose a threat to healthy animals. There is currently no vaccine or effective treatment for this disease.

EIA is a disease of worldwide significance. In some foreign countries the disease incidence may be as high as 50 percent or more. In the United States it has occurred in nearly every state; however, 90 percent of the cases occur in what is known as the "hot zone," those states bordering the South Atlantic Coast, the Gulf of Mexico, and the Mississippi River Basin, including Oklahoma and Texas. Disease risk in these areas is higher because environmental conditions are more favorable for prolonged insect vector seasons.

Florida's equine industry continues to be a vital economy to the state, and the Department is working hard to safeguard this important state resource from the potential devastating effects of this disease. With support and cooperation from the state's equine industries, Florida was one of the first states to implement an EIA disease control program.

Last year more than 2.1 million horses were tested for EIA nationally. In Florida more than 139,000 horses were tested, with no reactors detected. On a national level roughly 20 percent of the equine population is tested annually, but in Florida approximately 30 percent of the horses are tested annually. In spite of being in the EIA "hot zone," Florida's EIA control program keeps the disease incidence at a very low rate (<0.004 percent), which is below the national level of 0.015 percent. This can be attributed to the Department's effective EIA control program and strong support from the state's equine industry.

Equine Piroplasmosis

Equine Piroplasmosis (EP) is an animal disease caused by the parasitic organisms *Babesia equi* and *Babesia caballi*, and is primarily transmitted to horses by ticks. The greatest risk of introduction of this disease is through importation of horses from countries where EP is endemic.

An outbreak of EP occurred in Florida beginning in August 2008, when a horse showing signs of the disease was admitted to a referral hospital in Ocala. The horse was determined to be infected with the EP organism, *Babesia equi*. The subsequent investigation ended in February 2009 after 25 premises were quarantined and over 200 horses were tested for the disease. The origin of the outbreak is believed to have been an infected horse imported from Mexico.

Florida is the only state that monitors the status of horses imported from Puerto Rico and the U.S. Virgin Islands, where EP is endemic. Florida requires all horses to be negative for EP prior to shipment and to be retested 30 to 60 days after arrival. Last year the Department issued 67 permits covering 95 horses.

Arboviruses

Arthropod-borne viruses (arboviruses) are viruses that can be transmitted to humans and horses by mosquitoes. Arboviral infections in humans and horses may result in development of a fatal case of encephalitis: inflammation of the brain and spinal cord. These viruses are maintained in nature through continuous transmission between natural reservoir hosts (primarily wild birds) and certain species of mosquitoes (disease vectors). Humans and horses do not contribute to the spread of these diseases and, as such, are considered "dead-end" hosts. Although other animals are susceptible to arbovirus infections, humans and horses are most susceptible to developing clinical disease.

As arboviral activity is seen every year in Florida, an Arboviral Working Group has been formed. It involves many state agencies, including the Florida Department of Agriculture and Consumer Services, the Florida Department of Health, the Florida Wildlife and Conservation Commission, and the University of Florida, among others. This task force monitors the Florida arboviral situation all year, which includes testing and surveillance of sentinel chicken flocks, wild birds, horses, humans and other animals, and mosquitoes. The Bureau of Animal Disease Control's role involves the monitoring of equine populations for Eastern Equine Encephalomyelitis (EEE) and West Nile Virus (WNV).

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Eastern Equine Encephalomyelitis

Eastern Equine Encephalomyelitis (EEE) is one of several arboviruses transmitted by infected mosquitoes that may cause fatal encephalitis in humans and horses. Mosquitoes become infected with the virus after feeding on wild birds. Transmission of EEE from horse to horse or horse to human via mosquito bites is highly unlikely because humans and horses are poor reservoirs for the virus. In humans and horses, the mortality rate is extremely high: 50 percent or more in humans and 80 to 90 percent in horses. Regular vaccination of horses is effective in greatly lowering the prevalence of this disease.

EEE is most often detected in horses during the months of May through September. Florida averages over 74 confirmed cases of EEE each year. Many of these cases appear in the same areas year after year. Mosquito activity in Florida may occur on a year-round basis; therefore, cases of EEE may be reported during any given month. About every seven to 10 years, the number of cases reported reaches epidemic proportions and may be well over 100. In 2003 the number of cases reached epidemic levels with 207 cases being reported. The EEE activity during the fiscal year 2008-2009 was very close to the yearly average at 73 confirmed cases.

West Nile Virus

West Nile Virus (WNV) is another mosquito-borne viral disease that may cause encephalitis in humans and horses, but unlike EEE, the clinical course of the disease is not as severe, and mortality rates are much lower: 25 percent to 30 percent in horses and less than 10 percent in humans. Vaccination of Florida horses is also recommended.

WNV is commonly found in wild birds, humans, and other vertebrate animals in Africa, Eastern Europe, Western Asia, and the Middle East, but until 1999 had not been documented in the Western Hemisphere. During the late summer of 1999, WNV was identified in New York City for the first time. By the end of the year, cases in wild birds, humans, and horses had been documented in three northeastern states. The virus survived the winter, and during 2000 continued to spread to 12 eastern coastal states. By 2001 the virus had spread to 18 states, including Florida. Across the country more than 730 equine cases were confirmed, with 156 fatalities. Florida alone reported 492 cases with 82 deaths. In

2002 WNV expanded rapidly westward. Almost 1,500 equine cases were reported in 40 states. Approximately one-third of the affected horses died. Florida reported 499 cases with 92 horse deaths. In 2003 there were 117 equine cases reported. This number has continued to decline in horses, and in fiscal year 2008-2009 there was only one confirmed case in a horse.

The Department continues to work closely with its other Arboviral Working Group partners to provide valuable surveillance data on equine cases. The EEE/WNV Equine Database has been an invaluable tool in tracking these diseases and reporting them to the working group in a timely manner. Early detection and reporting of arboviral cases help to warn citizens to take precautions against mosquito bites and to remind horse owners to ensure that their horses are appropriately vaccinated.

Swine

For fiscal year 2008-2009, 67,611 swine were inspected on 2,973 premises visits by field personnel, 9,693 were inspected at livestock markets, 12,087 were inspected at small animal sales, and 9,631 were inspected at fairs and shows.



Classical Swine Fever

Classical Swine Fever (CSF), also known as hog cholera, is a highly contagious viral septicemia affecting only swine. It has been eradicated from the United States since 1976. As the world's second-largest exporter of pork, the U.S. pork industry would suffer catastrophic losses should there be a CSF outbreak. Florida must remain vigilant in its surveillance for the emergence of foreign animal diseases because of its location and high feral swine population, the existence of garbage feeders, and increases in international travel. During the past

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fiscal year, in accordance with a state-federal cooperative agreement, a targeted surveillance program of slaughter plants and high-risk swine populations (garbage feeders, feral swine) was begun. In 2008-2009, 20 tonsil samples were submitted to the Kissimmee Animal Disease Diagnostic Laboratory for testing, and 2,005 serum (blood) samples were submitted to the U.S. Department of Agriculture Foreign Animal Disease Laboratory for testing.

Garbage Feeders

The cooperative State-Federal Swine Health Protection Act established standards for feeding waste to swine. The standards were designed to prevent the introduction of foreign animal diseases such as Foot-and-Mouth Disease and Classical Swine Fever (CSF) into U.S. herds. As the primary entity charged with fulfilling the requirements under this act, state inspectors have the responsibility of conducting monthly checks at facilities that collect edible waste food products that are cooked and fed to swine. During fiscal year 2008-2009, the Department licensed 75 garbage feeder operators and carried out a total of 1,178 inspections. Through these inspections, 52,802 garbage-fed swine were evaluated and, if needed, tested for disease.

Swine Brucellosis and Pseudorabies (Aujeszky's Disease)

Brucellosis is a contagious, costly disease affecting ruminants, swine, and humans. Caused by a bacterium, it affects livestock by causing abortion, low fertility, and lameness. Under the Cooperative State-Federal Brucellosis Eradication Program, Florida is classified a brucellosis-free state for its commercial production swine. Like brucellosis, pseudorabies is a deadly disease of pigs that can be spread to cattle, horses, sheep, goats, dogs, and cats. An infection with this viral disease leads to high mortality in newborn piglets, and older pigs can become carriers of the virus for life. A voluntary cooperative eradication program for pseudorabies was established in the United States in 1989 and involves industry and federal and state government. The program's primary activities include surveillance, herd monitoring, and herd cleanup. Swine producers that wish to have Qualified/Validated status or Modified-Monitored/Validated status for these two diseases must first pass a risk assessment test and complete a herd health plan. Florida is classified a pseudorabies-free state (also within the Com-

mmercial Production Swine herds). For fiscal year 2008-2009, 556 animals were tested for pseudorabies and 678 animals were tested for swine brucellosis. Twelve herds qualified as brucellosis-free and pseudorabies-free. Both of these diseases are highly prevalent in feral swine throughout Florida and continue to threaten backyard swine maintained in all areas of the state.

Reportable Animal Disease Tracking

Reportable diseases are those considered dangerous and transmissible. They can seriously impact animal, and sometimes public, health. Early disease detection is instrumental for effective control and eradication. Having a list of reportable diseases gives the state a roadmap to follow in carrying out its mission of protecting its populace from animal pests and diseases, which could have major economic and public health consequences. From that list the Department has developed a database on which information concerning reportable animal disease investigations can be entered and evaluated. For fiscal year 2008-2009, 269 reports of suspected or positive dangerous, transmissible diseases were received and acted upon by the State Veterinarian's Office.

Cervidae

Florida's captive cervidae industry continues to grow. While this industry is licensed primarily by the Florida Fish and Wildlife Conservation Commission (FWC), the Department is a partner working with disease control issues and importation policies. A newly formed Florida Deer Farmers Association, with 300 active members, is working with the Department and game biologists to improve the herd health and genetics of Florida's captive cervidae herds. The Department's captive Cervidae Herd Health Plan requires mandatory testing of all animals that die or are killed if they are older than 16 months of age. Passive surveillance of symptomatic wild deer is also under way. To ensure these requirements are enforced, state personnel work with owners of captive cervidae herds on disease management programs. They conducted over 408 premises inspections during the past fiscal year. No animals tested positive for tuberculosis, brucellosis, or CWD. The Department continues to monitor the status of certain diseases affecting cervidae in other regions of the United States.

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Chronic Wasting Disease

Chronic Wasting Disease (CWD) is a Transmissible Spongiform Encephalopathy (TSE) of deer and elk. To date, this disease has been found only in cervids (members of the deer family) in North America. First recognized as a clinical “wasting” syndrome in 1967 in mule deer in a wildlife research facility in northern Colorado, it was identified as a TSE in 1978. CWD is a progressive disease that attacks the brains of infected animals, causing the animals to become emaciated, display abnormal behavior, lose bodily functions, and subsequently die. CWD has become of particular concern due to its lack of known prevention and treatment, lack of a live animal diagnostic test, and unknown origin and means of transmission. There is no known relationship between CWD and any other TSE of animals or people, and there is no evidence that CWD poses any risk to human health.

Current growth and resultant rapid widespread movement in the cervidae farming industry increase the potential for the spread of CWD and other diseases of cervidae. Due to the potential threat CWD poses to Florida’s captive and free-ranging cervidae populations, Chapter 5C-26, Florida Administrative Code, requires that cervidae being imported into Florida originate from

a herd that participates in an official CWD surveillance/prevention program, be free of CWD for at least 60 months prior to importation, and originate from accredited tuberculosis-free and brucellosis-free herds. It also requires that all captive cervidae being transported within the state must originate from, and be moved to, premises currently licensed by FWC and currently enrolled in the Division of Animal Industry’s Cervidae Herd Health Plan (CHHP) program. Since Rule 5C-26 became effective, the number of approved CHHP program herds has increased from 93 herds in 2002 to 317 as of June 30, 2009. Additionally, all cervidae being transported into or within Florida are required to be accompanied by a Certificate of Animal Movement, issued by the division within 30 days prior to movement. A total of 47 import permits and 181 intrastate movement permits were issued during fiscal year 2008-2009.

A federal CWD Herd Status Rule that will place specific requirements on cervidae being moved from state to state is still under consideration before becoming effective. The Division of Animal Industry is continuing to work with Florida’s captive cervidae herd owners to help them achieve CWD Free Herd Status.

CWD has been diagnosed in both captive and free-ranging elk, mule deer, white-tailed deer, and black-tailed deer located in Canada, Colorado, Illinois, Kansas, Minnesota, Montana, Nebraska, New Mexico, New York, Oklahoma, South Dakota, Utah, West Virginia, Wisconsin and Wyoming. The Department continues to work with the cervidae industry, USDA, and other state and federal agencies to prevent the introduction of CWD and conduct surveillance in farmed and wild cervidae populations in Florida. During the 2008-2009 fiscal year, 582 samples from free-ranging deer and three from captive cervidae herds in Florida were submitted for testing and all results were negative. No suspected clinical cases of CWD have been reported.

Companion Animal and Small Animal Programs

In 2003 the Division of Animal Industry designated a separate program area to monitor companion animal health issues within the state and ensure compliance with existing rules and legislation affecting companion animals. Efforts have continued and expanded as compliance with interstate and intrastate small animal

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movement requirements, health certification by accredited veterinarians in Florida, consumer protection and assistance, and rule development/legislative support areas are monitored.

A tracking system was implemented to address consumer complaints involving health certification and the sale of small animals (dogs and cats), covered by Section 828.29, F.S., the Pet Law, and Section 585.145, F.S., relating to the control of animal diseases as well as Departmental rules. A total of 307 written complaints were processed in fiscal year 2008-2009. These complaints involved cases concerning both dogs and cats and were brought against pet stores, breeders, brokers, veterinary clinics, private sellers, and boarding kennels.

Mediation of these consumer complaints resulted in refunds of purchases in the amount of \$24,633. Approximately 10 percent of the cases/complaints were referred to the Office of Agricultural Law Enforcement and/or other agencies for further investigation. Educational letters were sent to sellers and their veterinarians in Florida in an effort to inform them of the requirements of Florida statutes governing the sale and health certification requirements of dogs and cats sold in or transported to Florida.

During the 2008-2009 fiscal year, division inspectors visited 250 pet stores to review Official Certificates of Veterinary Inspection and inform sellers about the requirements of the Pet Law for sales of dogs or cats in Florida.

Emergency Management

In the aftermath of Hurricane Andrew in 1992, Chapter 252, F.S. (State Emergency Management Act), was enacted, mandating the development of the Florida Comprehensive Emergency Management Plan. The plan establishes a framework through which Florida prepares for, responds to, recovers from, and mitigates the impacts of a wide variety of disasters that could adversely affect the health, safety and/or general welfare of the residents of the state. The plan provides guidance to state and local officials on procedures, organization, and responsibilities. It also provides for an integrated and coordinated local, state, and federal response.

To facilitate effective operations, the plan adopts a functional approach that groups the types of assistance to be provided into 18 Emergency Support Functions (ESF). Each ESF is headed by a lead or primary agency or organization, which has been selected based on its authorities, resources, and capabilities in that functional area.

ESF-17, Animals and Agriculture, is organized to ensure a rapid, coordinated response to animal and agricultural emergencies that may result from natural disasters, dangerous transmissible diseases, or a bioterrorist event. The Department is the primary agency for ESF-17. The Division of Animal Industry assigns personnel to staff ESF-17 at the State Emergency Operation Center as well as in the field and provides daily direction. This direction includes the assignment of personnel to handle requests for assistance and ensures that requests for assistance are prioritized, met, and documented.

ESF-17 establishes coordination with other Emergency Support Functions and multiple county, state, and federal agencies and volunteer organizations. It maintains open communications with these agencies and organizations in both the planning and operations stages. In order to effectively coordinate the efforts of multiple organizations, a State Agricultural Response Team (SART) was formed in 2003. SART is a multiagency coordination group consisting of governmental and private entities dedicated to all-hazard disaster preparedness, planning, response, and recovery for the animal sectors in Florida.

SART's mission is to empower Floridians through training and resource coordination to enhance all-hazard disaster planning and response for animal and agricultural issues. SART operates under the direction of an advisory board made up of representatives from supporting agencies and organizations.

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Participating agencies supply personnel who comprise the SART Advisory Board. This board currently has over 30 members. It meets quarterly to provide guidance for animal and agricultural emergency management activities. Division of Animal Industry personnel provides support and coordination for these meetings and for the SART Advisory Board.

SART held its second biennial statewide conference on March 25-27, 2009, in Cocoa Beach. The conference was well attended with nearly every county sending at least one representative.

ESF-17/SART assisted Floridians during the floods caused by Tropical Storm Fay as well as the during spring flooding across North Florida. On September 14, 2008, Texas asked ESF-17/SART to help following Hurricane Ike. On September 16, 2008, the division deployed a six-member team with a variety of response equipment. The team returned to Florida on September 22.

SART's Veterinary Emergency Treatment Services (VETS) program led by the University of Florida's College of Veterinary Medicine continues to grow and provides veterinary medical care for animals impacted by a disaster. It is similar in concept to the U.S. Army's old-style MASH units. Immediately following a disaster such as a hurricane, a VETS team in cooperation with private, state, and

federal agencies under ESF-17 direction would perform veterinary needs assessments in an impacted area. The team would assist veterinary hospitals and clinics, coordinate aid for private practitioners, and provide basic to moderate levels of animal care.

SART continues to purchase and stage emergency response trailers, supplies, and equipment; provide coordination and guidance on the preparation of multiple training modules and materials; and administer the SART web site and the numerous community outreach activities related to emergency management education. During fiscal year 2008-2009, SART added seven Mobile Animal Response Equipment (MARE) units to its response capability list. A MARE unit is a 16-foot, open-sided livestock trailer that is stocked with small-animal response necessities. A unit was purchased for each of Florida's seven regions through a Homeland Security grant for developing regional resources. Memorandums of Understanding (MOU) have been completed with the host counties in each region: Region 1, Walton County; Region 2, Madison County; Region 3, Bradford County; Region 4, Sumter County; Region 5, Osceola County; Region 6, Glades County; and Region 7, Broward County. FDACS will maintain ownership of the units and will utilize them for emergencies in other regions. The county is responsible for storing the equipment in an area providing protection from weather elements, performing light maintenance, and sharing the unit with other counties in the region as needed.

Division staff met with Emergency Management personnel in 65 of the 67 counties in Florida to provide them with copies of the newly printed Pet Friendly Evacuation and Sheltering Manual. At these meetings division staff provided information on developing county animal response plans and county SART teams. This manual can be found online at www.flkart.org. Division personnel provided presentations at many conferences throughout Florida and in other states. These included the National Hurricane Conference, the South Florida Catastrophic Planning Project, the Governor's Hurricane Conference, the National SART Conference, and the Florida Veterinary Medical Association Conference.

Division personnel also attended and participated in multiple State Emergency Operations Center exercises, including a statewide hurricane exercise, radiological in-

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cident exercise, and a statewide Rift Valley fever training exercise. Rift Valley fever is a very serious foreign animal disease that is a threat to animal and public health in Florida.

The Rift Valley fever statewide training exercise was sponsored by the Florida Department of Agriculture and Consumer Services, the University of Florida's College of Veterinary Medicine, and the Florida Division of Emergency Management. Over 100 participants attended, representing 14 state, federal, and international agencies. The purpose of the training exercise was to provide the participants with the opportunity to plan, initiate, and evaluate current response concepts and capabilities in a simulated introduction of Rift Valley fever into Florida. Following the statewide training exercise, the Division of Animal Industry's Kissimmee Diagnostic Laboratory held an associated tactical exercise to a Rift Valley fever incident in Florida.

The Florida Veterinary Corps is a growing program comprised of volunteer veterinarians, animal health technicians and volunteers who will support relief efforts in an emergency or disaster involving animals and animal health in Florida. The goals of the corps are to assess veterinary response capabilities in the impacted areas, provide emergency animal treatment in the aftermath of a natural disaster, and support disease surveillance and control efforts in combating devastating diseases affecting Florida's animal industry. Currently, there are 80 veterinarians, animal health technicians,, and volunteers enrolled.

Diagnostic Laboratories

Due to Florida's unique geographic location, its close proximity to countries that have endemic diseases that are considered exotic or have been eradicated from the United States, the increased number of nonnative animal species introduced into the state, and the presence of international ports in Florida, the state occupies a critical position in the nation's agricultural industry. Imported animals pose a constant threat for the introduction of classic or foreign animal diseases. The ongoing threat of terrorism also raises concerns about the state's vulnerability to deliberately introduced biohazards. To meet these challenges, the Department's Bureau of Diagnostic Laboratories (BDL) is staffed with veterinarians,

biologists and technicians who are highly trained in a range of diagnostic disciplines, including bacteriology, virology, molecular biology, toxicology, parasitology, and pathology. The BDL performs numerous diagnostic tests across these disciplines and periodically conducts foreign animal disease exercises to ensure the staff's readiness to respond.

Many diseases are considered harmful to Florida's animal industry or to the general public. These diseases are listed as reportable to the Department. In addition to the monitoring and surveillance of animal diseases, the laboratories also conduct thousands of diagnostic tests each year to detect diseases of public health significance, such as West Nile Virus (WNV), Lyme disease, Rocky Mountain spotted fever, psittacosis (chlamydia), toxoplasmosis, giardiasis, brucellosis, salmonellosis, anthrax, leptospirosis, rabies, and many others. Rabies suspect animals that have been implicated in human exposure incidents are submitted to the laboratory for collection of samples. These samples are then forwarded to human diagnostic laboratories at the Department of Health for rabies virus testing. The BDL staff works closely with the Bureau of Animal Disease Control staff in the monitoring and implementation of disease surveillance programs.

In November 2008, senior BDL staff attended a three-day statewide emergency preparedness exercise for a simulated foreign animal disease outbreak investigation conducted in the Emergency Operations Center in Tallahassee. This was followed by a real-time, simulated and unannounced foreign animal disease outbreak scenario conducted by the Emergency Response Coordinator of the Division of Animal Industry to test the Kissimmee Laboratory's emergency response plans. The laboratory's response was deemed successful by independent evaluators.

In fiscal year 2008-2009, the laboratory accomplished the goals of creating and developing its emergency response teams, bio-safety teams, and emergency response and bio-safety plans. These plans have been written in conjunction with the bureau's quality manual and are integrated into the bureau's quality management system.

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Comprised of the diagnostic laboratories at Kissimmee and Live Oak, the BDL's main laboratory in Kissimmee is an all-species, full-service laboratory certified by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) to conduct diagnostic testing. The AAVLD sets the requirements for quality system standards among veterinary diagnostic laboratories in the United States. The AAVLD certification is recognized worldwide.

In addition to full instrumentation upgrades and facility renovations to meet the new equipment demands in recent years, the BDL had received funding to initiate and complete construction of the first and second phases of the new campus master plan. The first phase was the completion of a new shipping and receiving building in October 2008, and the second phase was the completion of the new necropsy and incineration facility in July 2009. The third and final phase of the master plan is the construction of a main laboratory unit, which will complete the campus replacement. The final phase is expected to cost approximately \$33 million.

During fiscal year 2008-2009, the BDL tested over 338,000 submitted samples.

Kissimmee Animal Disease Diagnostic Laboratory

The Kissimmee Animal Disease Diagnostic Laboratory (KADDL), one of two laboratories in Florida's Diagnostic Laboratory System, is a full-service, all-species laboratory receiving domestic and exotic animal species with the exception of primates. A wide variety of tests, ranging from full necropsy/anatomical pathology service to clinical pathology, histopathology, and immunohistochemistry, are offered. Additional tests include microbiology (bacteriology/virology/serology), toxicology, and molecular diagnostics. During fiscal year 2008-2009, 72,192 samples were tested at the Kissimmee Laboratory.

During fiscal year 2008-2009, KADDL responded to and processed and tested samples associated with three major disease incidents in equines (i.e., contagious equine metritis, equine Piroplasmosis, and selenium toxicosis). The laboratory staff has been trained and proficiency-tested to perform sample preparations and test proce-

dures to detect and diagnose these diseases accurately in a timely manner.

The Kissimmee Animal Disease Diagnostic Laboratory has a Level 3 Biosafety Laboratory (BSL-3) at its facility. This BSL-3 enables the bureau to provide rapid diagnostic procedures for diseases that are considered foreign in the United States, introduced either naturally or intentionally (bioterrorism), which could result in potentially devastating disease outbreaks.

The U.S. Department of Agriculture (USDA) has designated the Kissimmee Laboratory as one of the pilot laboratories of the National Animal Health Laboratory Network (NAHLN). The NAHLN was created to provide increased homeland and domestic security both in Florida and the nation. This initial program identified 12 laboratories across the United States to augment the USDA National Veterinary Services Laboratory in Ames, Iowa, and the USDA Foreign Animal Disease Diagnostic Laboratory at Plum Island, New York. The KADDL has maintained its core membership category with NAHLN and has continued receiving substantial cooperative grant funding from USDA. Recently, the KADDL has realized its commitment to send HL7-interfaced result messages to NAHLN via the NAHLN-O-Matic reporting system.

The initial target diseases are Exotic Newcastle Disease (END), highly pathogenic Avian Influenza (AI), Classical Swine Fever (CSF), African Swine Fever (ASF), Foot-and-Mouth Disease (FMD), Rinderpest, Contagious Bovine Pleuropneumonia (CBPP), Lumpy Skin Disease (LSD), Vesicular Stomatitis (VS), Chronic Wasting Disease (CWD) and Scrapie. These are monitored using immunohistochemistry techniques. Laboratory staff has received training on methods using new procedures in molecular diagnostics, including real-time reverse-transcription polymerase chain reaction (rt-RT-PCR). The laboratory is certified by the USDA to perform rt-RT-PCR for AI, END, CSF, FMD, and, recently, for novel H1N1 Influenza. The laboratory is continuing its surveillance for END, AI, and CSF as part of the NAHLN effort to detect foreign animal disease before outbreaks may pose serious problems to agriculture. The surveillance program is a concerted effort between the Bureau of Animal Disease Control field staff, the BDL, and the USDA.

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Laboratory staff members have been actively performing surveillance testing in high-risk bird populations that consist mainly of backyard flocks, exhibition birds, and other non-industry-related bird-rearing activities. Additional samples have been received at both the Kissimmee and Live Oak laboratories for AI testing due to increased surveillance by the National Poultry Improvement Program and the Florida Fish and Wildlife Conservation Commission (FWC). The laboratories also continue to test for West Nile Virus (WNV) infection, a mosquito-borne disease that has continued to be prevalent in Florida. Several tests such as antigen capture ELISA, traditional RT-PCR, rt-RT-PCR, and viral isolation are performed to diagnose infections with WNV. The Kissimmee Diagnostic Laboratory in conjunction with the Florida Department of Health monitors for WNV as well as other mosquito-borne arboviral diseases. Evaluating the spread of arboviral diseases in animals affords public health officials a barometer of impact to humans. New tests have allowed the laboratory to confirm the diagnosis of these diseases.

Live Oak Animal Disease Diagnostic Laboratory

During fiscal year 2008-2009, the Live Oak Animal Disease Diagnostic Laboratory worked to gain infrastructure, training and testing improvements aimed to better serve Florida's animal industries. These proposed enhancements are intended to position the laboratory to meet changing needs and allow flexible response for future demands. The Live Oak Laboratory performs mainly Florida program testing for USDA-regulated program diseases, for example, brucellosis, Equine Infectious Anemia, pseudorabies, Avian Influenza, Avian Mycoplasmas, Pullorum Typhoid, and Johne's disease. During this fiscal year, the Live Oak Laboratory tested 265,839 samples. Results for these tests were reported to officials responsible for emergency eradication efforts or ongoing animal disease control programs. These programs were primarily for cattle, horses, poultry, and swine.

Poultry disease surveillance for the area broiler industry is a major component of sample submission and testing regularly conducted at the Live Oak Laboratory. These surveillance tests monitor birds for Salmonella, AI, and other disease entities critical to poultry production and economics. Ongoing regular submissions of diseased

backyard poultry via Bureau of Animal Disease Control field operations yields surveillance samples that could provide early detection of diseases that could be very detrimental to Florida's poultry industries.

The laboratory staff worked closely with the Bureau of Animal Disease Control field staff and District veterinarians on numerous individual cases as well as several ongoing disease programs to assist in the early detection of monitored diseases and to provide surveillance for the emergence of new animal disease threats.

Feed, Seed and Fertilizer Feed Program

Animal feeds are regulated using a network of six Department-certified laboratories located throughout the United States. Registrants, including ingredient suppliers, livestock feed and pet food manufacturers, and other distributors of commercial feed products, are required to submit samples of their products for testing based on the feed type and tonnage distributed in the state. Results from the certified laboratories are reported to the State Feed Laboratory, where compliance with Chapter 580, F.S., is determined and regulatory actions are initiated as appropriate. In fiscal year 2008-2009, 866 companies were registered with the Department as distributors of commercial feed in Florida. A total of 1,724 samples were submitted and analyzed, with 73 violations in one or more categories. This represents an overall violation rate of 4.23 percent. Inspection, sampling, and laboratory evaluation oversight was conducted to verify compliance with the feed program. Eight consumer complaints were investigated, and 60 administrative fines totaling \$26,252 were collected for feed rule violations.

Bovine Spongiform Encephalopathy (BSE), widely referred to as "mad cow disease," continues to be the most critical feed-related issue. BSE is a progressive and fatal neurological disorder of cattle that is caused by infectious protein agents called prions. The disease was first identified in 1986 in the United Kingdom, but it was not detected in the United States until December 2003, when BSE was diagnosed in a single dairy cow in Washington State (the cow had been imported from Canada). Subsequently, two additional cows, one in Texas and an-

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other in Alabama, were confirmed to have BSE in 2005 and 2006. In each case, swift government intervention prevented the infected cattle from entering the animal feed or human food markets.

Variant Creutzfeld-Jakob Disease, a chronic and fatal neurodegenerative disease that affects humans, is assumed to be linked to the consumption of beef products contaminated with the BSE agent. The U.S. Department of Health and Human Services and the U.S. Department of Agriculture have implemented measures to protect the public from health risks associated with BSE and to prevent the spread of the disease in U.S. cattle. The Department continues to pursue funding from additional sources to enhance existing surveillance and laboratory analysis programs related to BSE prevention.

To ensure that this disease does not develop in Florida, the Bureau of Compliance Monitoring extended its contract with the U.S. Food and Drug Administration (FDA) to conduct inspections of feed manufacturers, distributors, transporters, salvagers, and ruminant feeders. The inspections are intended to prevent the establishment and amplification of BSE by ensuring that no prohibited mammalian protein products are used in feed for ruminant animals such as cows and sheep. A total of 330 BSE inspections were completed under the 2008 contract and cooperative agreements, and 330 inspections are contracted for the 2009-2010 fiscal year. In June 2009 the Feed Section secured additional funds to enhance its feed analysis and inspection program in which animal feeds are tested for materials prohibited by FDA's ruminant feed ban using polymerase chain reaction (PCR). This new technology uses a DNA amplification technique to isolate and amplify any bovine proteins present and potentially prohibited from use in sampled feed products. In fiscal year 2008-2009, 336 animal feeds were tested for the presence of bovine proteins using PCR with additional funding from FDA.

Seed Program

The seed program is administered to ensure that Florida consumers have a source of high-quality seed for planting that meets or exceeds state and federal standards. Samples of agricultural, vegetable, and flower seed are collected and analyzed for purity, noxious weed contamination, germination, and compliance with Chapter 578, F.S. Commercial seed samples are tested on a fee basis

to determine seed quality for accurate labeling or planting information. During fiscal year 2008-2009, 1,841 Seed Dealer Licenses were issued and 2,920 official seed samples were collected. Laboratory personnel analyzed 3,148 official, special, and commercial seed samples, requiring 62,087 determinations. Based on analyses, it was determined that 17.8 percent of the official samples were mislabeled and 3.8 percent were illegal.

The division continues to play a vital role in controlling the spread of the invasive noxious weed tropical soda apple. During this fiscal year, the seed laboratory identified 19 seed lots contaminated with this invasive noxious weed seed, resulting in the initial stop-sale of 129,700 pounds of contaminated agricultural seed destined for planting in Florida and the Southeast. Re-cleaning and subsequent analysis of contaminated seed lots allowed for relabeling and the potential sale of 27,100 pounds of previously stop-saled seed. The Department continues to inform stakeholders about the severity of tropical soda apple infestations and educate them on control and management practices. An additional 34,950 pounds of agricultural seed were removed from sale due to laboratory analysis confirming the excessive presence of other noxious weed seed, including field bindweed, Texas millet, and wild radish.

Laboratory analysis also resulted in the stop-sale of 138,300 pounds of agricultural and vegetable seed due to germination below the minimum standard allowed under 5E-4.006, Florida Administrative Code. An additional 112,600 pounds of oat seed were determined to be in violation of Chapter 578.24, F.S., "Mixed varieties of seed oats prohibited," and subsequently placed under stop-sale. Another 48,150 pounds of field seed were placed under stop-sale after laboratory analysis determined contamination with weed seed in excess of 2 percent by weight, a violation of Section 5E-4.004, Florida Administrative Code.

The increased usage of genetically enhanced seed in Florida agriculture – predominantly corn, cotton and soybean seed – is confirmed through the division's seed sampling and regulatory program. Additional analyses were performed on 67 samples of genetically enhanced seed to verify the presence of an herbicide tolerance trait.

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Chapter 578.26, F.S., authorizes the Seed Investigation and Conciliation Council to assist farmers and seed dealers in determining the validity of complaints made by farmers against seed dealers and to recommend cost damages in those cases involving failure of the seed to produce as represented by the label on the seed package. In fiscal year 2008-2009, the council received five new complaints, of which none are currently pending. During the fiscal year, the council issued findings and recommendations on 11 seed complaints that were completed through the investigation and hearing process.

The Seed Laboratory is a member of the Association of Official Seed Analysts, and five laboratory personnel are individually certified by the association as Certified Seed Analysts. These personnel participated in two referee sample projects conducted by the association during this fiscal year for the purpose of possible rule modifications. Four laboratory personnel, recognized as Registered Seed Technologists, are also members of the Society of Commercial Seed Technologists and have successfully completed eight proficiency samples during the fiscal year in order to maintain their Registered Seed Technologists standing.

The Department also cooperates with the USDA's Agricultural Marketing Service in enforcement of the Federal Seed Act. During this fiscal year 24 official seed samples, representing tomato, pepper, sweet corn, and ladino clover seed shipped via interstate commerce into Florida, were submitted for inclusion in Trueness-to-Variety trials. Results of these field trials may conclude with enforcement action by the Seed Regulatory and Testing Branch of the Agricultural Marketing Service.

Fertilizer Program

The Fertilizer Program stands out as one of the most progressive programs in the country. Official samples of commercial fertilizer and agricultural liming materials are collected statewide by field staff and analyzed to ensure they meet the standards established in Chapter 576, F.S., and Chapter 5E-1 Florida Administrative Code. The Department's Fertilizer Laboratory continually searches for, or develops, new methodologies to meet the evolving needs of the Florida consumer in the areas of nutrient availability in controlled-release fertilizers and micro-nutrient solubility.

The Bureau of Compliance Monitoring registers "specialty fertilizer" which is packaged in containers of 49 pounds or less and distributed for home and garden use. There are 1,780 specialty fertilizer products actively registered with the Department of which approximately 500 of these brand and grades are labeled for residential lawns.

As of July 1, 2009, fertilizer products shipped to the retail level must meet the guidelines set forth in Rule 5E-1.003(2), regarding Fertilizer Label Requirements for Urban Turf, Sports Turf, or Lawns. The rule outlines labeling requirements that are intended to protect Florida's water resources from non-point source pollution from turf fertilizers by limiting the application of nitrogen and available phosphate.

The fertilizer laboratory analyzes official samples of commercial fertilizer and agricultural liming materials to ensure that they meet the standards set forth in Chapter 576, F.S. There were 3,793 fertilizer samples analyzed during fiscal year 2008/2009, of which 833 were found to be deficient in one or more plant nutrients. The laboratory performed 146,821 determinations on these samples. The overall deficiency rate was 22 percent. Because of excessive deficiencies, licensees were placed on probation, and penalties and fines totaling \$377,990.54 were levied, with \$301,460.64 of that total returned to consumers. There were 532 licenses issued for the sale of fertilizer in Florida. Nearly 1.5 million tons of mixed fertilizer and fertilizer materials were reported sold in the state. The fertilizer laboratory performed 11,430 analyses for non-guaranteed trace metals in 163 fertilizer products, of which none exceeded the established tolerances. The fertilizer laboratory also analyzes commercial samples on a fee basis to determine compliance with label guarantees.

The fertilizer laboratory provides analytical support in the development of nutrient best management practices. The laboratory maintains accreditation from the National Environmental Laboratories Accreditation Conference (TNI) for its non-potable water analyses. TNI is a non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive, and transparent process that is responsive to the needs of the community. The NELAC standard is recognized nationally and

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internationally as the standard for assessing the quality and competence of environmental analytical testing.

Office of Agricultural Water Policy

Best Management Practices

The Department, through the Office of Agricultural Water Policy (OAWP), has adopted Best Management Practices (BMPs) for water conservation and water quality for various agricultural land uses throughout the state. Agricultural BMPs are practices or combinations of practices based on research, field testing, and expert review, determined to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural discharges. The development and implementation of agricultural BMPs are directed by statute and are the primary means for the agricultural community to comply with state water quality standards.



In developing BMPs, the OAWP works with the agricultural industry, Florida Department of Environmental Protection (DEP), the University of Florida's Institute of Food and Agricultural Sciences, the state's Water Management Districts, environmental community stakeholders, and others. During fiscal year 2008-2009, OAWP adopted statewide BMP manuals for sod and cow/calf operations. OAWP also worked on a manual for equine operations and a manual for specialty fruit and nut farms, both of which are targeted for adoption during fiscal year 2009-2010.

OAWP staff and OAWP-funded implementation teams work throughout the state to assist producers in selecting and implementing the BMPs applicable to their operations. In fiscal year 2008-2009, 384 producers enrolled

approximately 117,734 acres in OAWP BMP programs. Prior to the fiscal year, approximately 3,213 agricultural producers representing almost 2 million acres of agricultural land had enrolled in OAWP BMP programs. Some of these operations have gone out of production due to conversion to urban development and other reasons. During the fiscal year OAWP staff initiated an ongoing process of updating enrollment information in the database.

State and Federal Cost-Share Programs

In order to assist agricultural producers in implementing BMPs, the OAWP has developed working partnerships with various state and federal agencies. Through these partnerships, cost-share reimbursement is available for growers to implement BMPs that are otherwise cost-prohibitive. Currently, the OAWP has active agreements with USDA-NRCS, St. Johns River Water Management District, Suwannee River Water Management District, Southwest Florida Water Management District, South Florida Water Management District, and several of the state's Soil and Water Conservation Districts and Resource Conservation and Development Councils in order to administer these cost-share programs. During this fiscal year, staff was able to deliver only a minimum amount of cost-share programs due to budget shortfalls.

BMP Implementation Follow-Up

In July 2008 OAWP published an Implementation Assurance report to summarize the overall level of BMP implementation in certain regions of the state during fiscal year 2007-2008. The report, which is based on surveys and site visits, provides information on producer implementation of BMPs identified on Notices of Intent (NOIs) submitted to the Department under various BMP rules. The report focused on implementation of BMPs in the Indian River and Ridge Citrus regions, the Suwannee River Basin, and the Lake Okeechobee Watershed. Other commodities and areas of the state will be covered on a staggered schedule. The 2008-2009 Implementation Assurance Report is near completion and focuses on the Gulf Citrus region, the Peace River-Manasota basins, the Suwannee River Basin, and the Lake Okeechobee Watershed.

Field Staff and Technical Services

The OAWP has field staff co-located with the five Water Management District offices throughout the state. They

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help growers with BMP implementation by providing assistance with state and federal programs, conservation planning, BMP enrollment, and cost-share application information. Field staff participate in DEP's total maximum daily load (TMDL) program during the establishment of TMDLs and the development of Basin Management Action Plans (BMAPs) to implement TMDLs. OAWP's role in the BMAP process is to ensure that agriculture is adequately represented and that agricultural impacts to water quality are appropriately addressed. During the fiscal year, staff participated in TMDL/BMAP processes in at least a dozen priority watersheds throughout the state.

Regional Partnerships

The Suwannee River Partnership: The Suwannee River Partnership (SRP) was formed in 1999 as a coalition of state, federal, and regional agencies, local governments, and private industry representatives working together to reduce nitrate levels in surface waters and ground water and to conserve water resources within the Suwannee River Water Management District. The SRP continues to assist dairy, poultry, and row crop farmers with BMP and conservation plan implementation. During the fiscal year SRP staff supported the continuation of springshed protection programs, worked on improving site inspection processes to evaluate BMP implementation, and assisted in the implementation of BMP demonstration programs, among other things.

The Northern Everglades and Estuaries Protection Program: The Lake Okeechobee Protection Program was established by the 2000 Legislature to restore and protect the lake. Staff worked with DEP and SFWMD to implement the Lake Okeechobee Protection Plan that was submitted to the Legislature in 2004. The recommendations included in the plan are designed to reduce phosphorus loads from agricultural operations and implement long-term solutions based on the lake's phosphorus total maximum daily load. In 2007 the Legislature expanded the scope of the program to include the St. Lucie and Caloosahatchee River watersheds, renaming it the Northern Everglades and Estuaries Protection Program. The OAWP continues to work closely with DEP, SFWMD, and other stakeholders in this area to implement the recommendations of River Watershed Protection Plans pursuant to legislative resource protection goals and directives. OAWP staff also represented

the Department on basin working groups for the development of basin management action plans for the St. Lucie and Caloosahatchee River watersheds.

Soil and Water Conservation Council

The Soil and Water Conservation Council is a soil and water issues advisory body to the Commissioner of Agriculture. The council includes agricultural producers, representatives from the five Water Management Districts, DEP, USDA-NRCS, the Florida Legislature, the University of Florida's Institute of Food and Agricultural Sciences, and the environmental community. The council's primary purpose is to make water policy recommendations to the Commissioner of Agriculture regarding the Department's key water resources programs.



Mobile Irrigation Laboratories

Mobile irrigation laboratories (MILs) provide on-site water conservation assistance to the agricultural industry and the general public, under the coordination and administration of OAWP staff, the Water Management Districts, and/or the USDA-NRCS. This assistance typically includes site-specific irrigation system testing, diagnostics, irrigation scheduling, and/or recommendations for system upgrades or retrofits, consistent with the Department's BMP implementation and federal conservation planning programs. During this fiscal year, the Department received continued funding from the Florida Legislature to support the statewide MIL water conservation effort.

For more than a decade, MILs have been operating throughout Florida. Presently, there are 16 MILs pro-

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viding service in 51 counties. Of the 16 MILs, 10 are agricultural and six are urban. Recognizing the invaluable service that MILs provide to the state's agricultural industry, the OAWP continues to help fund MILs (via partnerships with state and federal agencies), improve MIL services and programs, and document related activities and water savings. Because of budget constraints during fiscal year 2008-2009, the OAWP discontinued funding support for the urban MILs it had provided that service to in previous fiscal years.

If fully implemented, the evaluation recommendations given during fiscal year 2008-2009 by the 10 agricultural MILs would save a minimum of 3.13 billion gallons of water a year. The cost to conserve water through MIL services is very competitive when compared to the costs to develop new sources of water.

Florida's Agricultural Water Policy

Progress continued on updating Commissioner Bronson's "Florida's Agricultural Water Policy" document, which was originally released in July 2003, to reflect new issues, statutes, and policies. The document resides on OAWP's web site, www.FloridaAgWaterPolicy.com, and outlines statewide agricultural issues associated with the supply, use, conservation, and allocation of the state's limited freshwater resources. The process for updating the document requires close coordination and consultation with multiple affected interests. Completion of the update is targeted for December 2010.

Ombudsman Assistance

Pursuant to statute, the OAWP has a Memorandum of Agreement with the five Water Management Districts (WMDs) regarding surface water permitting of agricultural operations. If requested by a WMD, staff produces a written opinion, based on legal and technical findings, to help the WMD determine whether an agricultural activity meets statutory requirements for exemption from permitting. During this fiscal year, OAWP staff assisted in two cases to determine whether the activities in question were exempt pursuant to Section 373.406(2), F.S. Staff also facilitates discussion between producers and agencies regarding other regulatory matters, such as consumptive use permitting and actions to address ground water impacts.

Agricultural Law Enforcement

The Office of Agricultural Law Enforcement consists of the Bureau of Uniform Services, the Bureau of Investigative Services, and the Bureau of Administrative Services, and is dedicated to the protection of Florida's agriculture and food supply. The office supports all regulatory and law enforcement programs of the Department and engages in cooperative partnerships with many federal, state, and local law enforcement agencies throughout the state. It works to safeguard the agricultural industry from the introduction of devastating diseases and pests, to secure the state's borders, and to enforce criminal and civil violations occurring within state forests, criminal acts against consumers, and those crimes involving agriculture, horticulture, and aquaculture.



The Florida Contraband Forfeiture Act authorizes the Office of Agricultural Law Enforcement to seize and forfeit real and personal property, including currency, vehicles, aircraft, and other articles that are used in violation of the act. In addition, the office conducts joint law enforcement ventures with federal agencies that result in the seizure of cash and property.

An accreditation program has long been recognized as a means of maintaining the highest standards of professionalism. Accreditation is the certification by an independent reviewing authority that an entity has met specific requirements and prescribed standards. The Office of Agricultural Law Enforcement is currently accredited by the Commission for Florida Law Enforcement Accreditation, Inc.

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Bureau of Uniform Services

Interdiction Stations

The Office of Agricultural Law Enforcement's interdiction stations are Florida's first line of defense in the protection of its agriculture. The Department operates 22 agricultural inspection stations located on all paved highways crossing the natural boundary of the Suwannee and St. Mary's rivers. In addition, the Department operates a 23rd inspection station, which is located on Interstate 10 at the Florida/Alabama line. Agricultural vehicle inspections are conducted at each location around the clock, 365 days a year, by 215 law enforcement personnel and a support staff of five individuals.

These officers support and supplement all of the Department's regulatory and law enforcement programs by conducting inspections of highway shipments of agricultural, horticultural, aquacultural, and livestock commodities. These regulations and programs ensure compliance with Federal-State Marketing Agreements as well as laws, rules, and regulations enacted to make certain the public receives quality food products. Programs are also designed to prevent, control, and eradicate specific plant and animal pests and diseases that could economically devastate segments of Florida's agricultural industry.

The state's border security is one of the four cornerstones in Florida's domestic security initiative. The increased vigilance of the Department's law enforcement officers has strengthened Florida's surface border protection. The implementation of the plan has resulted in the following:

- Performing interdictions/inspections of all commercial traffic and rental trucks entering and exiting the state.
- Tracking vehicles transporting dangerous cargo entering all interdiction stations.
- Utilizing real-time imaging of documents to track movement of agricultural commodities and livestock entering and exiting the state of Florida.
- Utilizing mobile gamma ray technology to enhance detection of plants, pests, or animal disease, and safeguarding Florida against agri-terrorism and contraband smuggling.

- Utilizing canine (K-9) teams, specially trained to detect illegal plant and animal material. These specially trained dogs detect animal and plant materials that may harbor infectious diseases that could be harmful to Florida's farming community as well as to public health.



- Maintaining a 24-hour toll-free hotline to report suspicious inbound or outbound commercial vehicles, as well as other agri-terrorism issues.
- Increasing staffing at all interdiction stations post September 11, 2001, has resulted in the identification of over 741 illegal aliens who attempted entry through concealed means. It has also resulted in the recovery of \$28.1 million in contraband, including narcotics, currency, and stolen property.
- Implementation of a camera system at key locations with tag recognition software that enhances bureau personnel's ability to detect suspect carriers.

To facilitate movement of commercial highway traffic, the Office of Agricultural Law Enforcement continues a public/private partnership with the Florida Department of Transportation and private enterprise, to provide commercial carriers with the PrePass™ electronic identifier which may allow some vehicles to bypass interdiction stations, reducing station traffic and allowing Department officers to concentrate their efforts on specific carriers of agricultural, horticultural, aquacultural, and livestock commodities.

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During fiscal year 2008-2009, Department officers conducted 9,466,834 vehicle inspections that detected 8,997 violations, which resulted in 295 arrests, 5,582 warnings, 3,004 administrative actions, and the apprehension of 116 illegal aliens. Officers also seized illegal narcotics currency and recovered stolen property valued at \$1.1 million.



During times of natural disasters, bureau officers function as members of Florida's Mutual Aid Response Team, participating in relief efforts to ensure that devastated areas receive adequate law enforcement protection.

The Department also cooperates with federal, state, and local governmental agencies on projects, both criminal and non-criminal, which either improve the efficiency of agricultural programs or generate additional revenues to the state without increasing costs to Florida's citizens. Department officers collected and provided the Florida Department of Revenue with 48,336 bills of lading pertaining to certain types of cargo entering Florida. These efforts resulted in an additional \$7,332,131 in sales and use taxes being collected by the state during fiscal year 2008-2009 that would have otherwise gone uncollected. This cooperative effort not only greatly enhances the state's ability to collect sales and use taxes but also precludes out-of-state contractors and businesses from gaining an unfair competitive advantage over Florida entrepreneurs. Since the inception of the program in April 1993, this cooperative effort has resulted in the detection and collection of over \$170 million in otherwise undetected sales and use tax.

Bureau of Investigative Services

The Bureau of Investigative Services is one of three designated bureaus in the Office of Agricultural Law Enforcement and provides investigative and technical support to the Bureau of Uniform Services and Bureau of Administrative Services in daily operations.

The bureau provides investigative support for all divisions of the Department in both civil and criminal matters over which the Department has jurisdiction.

The bureau works closely with all local, state, and federal agencies, providing investigative assistance and support in all matters over which the Department has jurisdiction, and is directly involved in safeguarding the public in issues relating to homeland security.

Bureau Mission

The mission of the Bureau of Investigative Services is to provide a safe and secure environment for the citizens of this state by:

- Protecting consumers against unfair and deceptive trade practices.
- Protecting the state's diverse agricultural industry from theft and other related crimes.
- Preserving and safeguarding the wholesomeness of food and other consumer products.
- Protecting the state's natural resources.

To safeguard the public, the bureau aggressively investigates criminal complaints seeking appropriate judicial intervention to resolve the complaint and prevent future acts of wrongdoing.

Bureau Responsibilities

The responsibilities of the Bureau of Investigative Services are as follows:

- The investigation of matters over which the Department has jurisdiction and incidents occurring on property owned, managed, or controlled by the Department.
- The enforcement of criminal and civil violations occurring within State Forests or any crimes involving

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farms, farm equipment, animals, livestock, poultry, and agriculture in general, and any crimes involving horticulture, aquaculture, or citrus products.

- The enforcement of environmental crimes such as illegal dumping, and laws governing outdoor open burning. All personnel in the bureau are trained in fire and arson investigations and investigate fires occurring in wildland and urban areas.

- The enforcement of laws governing consumer issues, including illegal telemarketing operations, sale of business opportunities, solicitations of contributions, sellers of travel, motor vehicle repair fraud, health studios, dance studios, pawnshops, moving and storage companies, and price-gouging.

- Developing and processing criminal intelligence information, conducting crime analysis of reported crimes, conducting research of persons suspected of committing crimes, and conducting background investigations of prospective employees of the agency.

- Providing personal protection services for the Commissioner of Agriculture and other dignitaries as needed.

Domestic Security

The bureau is actively involved in issues relating to domestic security and actively participates in all seven regional Domestic Security Task Forces statewide.

The bureau has two positions assigned to the state's joint response team under the direction of the Department of Environmental Protection. The team, which is represented by several state agencies, is trained in the response to and investigation of bio-hazard incidents statewide.

The bureau continues to conduct threat assessments of regulated entities affiliated with fertilizer, pesticide, food, and petroleum production and distribution points. It also investigates theft, shrinkage, and suspicious activities regarding these materials.

The bureau is engaged in a cooperative partnership with all federal, state, and local agencies in all 67 counties, providing investigative support in all matters over which the Department has jurisdiction.

Accomplishments

During fiscal year 2008-2009, the bureau initiated 3,344 investigations. The general categories used to classify investigations and the numbers of investigations conducted for each category are shown in the chart below. General categories may have sub-categories associated with them.

CATEGORY	
Animal/Livestock	111
Aquaculture	10
Arrest on Warrant	3
Background/Pre-employ	53
Bomb Threat/Destructive Device	0
Burglary/Trespass	15
Bypassing Ag Station	1
Consumer Related	552
Dignitary/Protective Operations	8
Drugs/Alcohol	28
Entomology/Pest Control	39
Environmental	21
Executive Investigations	11
Field Interview	1
Fire Related	844
Food Safety	63
Fruit and Vegetable	9
Illegal Aliens	0
Informational Only	60
Law Enforcement Sensitive/Intelligence	0
Licensing Related	16
Persons	7
Plant Related	7
Special Details	4
Standards Related	16
State Lands Related	1,367
Theft	62
Traffic	36
Other	0
Total Cases Initiated	3,344

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Arrests, Notices to Appear, Civil Violations, Written Warnings/ Field Interrogation Reports (FIRs)

The following is a cumulative total of actions taken involving known violators:

NUMBER OF KNOWN VIOLATORS

Adult Felony	66
Adult Misdemeanor	62
Juvenile Felony	16
Juvenile Misdemeanor	4
Juvenile Diversion	6
Misdemeanor NTAs	161
NTA Non-Criminal	465
UTC Criminal	3
UTC Non-Criminal	15
Adult Written Warnings/FIRs	806
Juvenile Written Warnings/FIRs	37
Total Known Violators	1,641

NUMBER OF RELATED CHARGES

Adult Felony	179
Adult Misdemeanor	115
Juvenile Felony	16
Juvenile Misdemeanor	5
Juvenile Diversion	6
Misdemeanor NTAs	179
NTA Non-Criminal	471
UTC Criminal	3
UTC Non-Criminal	15
Adult Written Warnings/FIRs	850
Juvenile Written Warnings/FIRs	37
Total Violations/Charges	1,876

Restitution/Recovery/Seizure/Reimbursement

The bureau has been directly involved in the investigation of, or assisted in the investigation of, significant drug seizures, recovery of stolen property, and the payment of restitution to the Department for expenses associated with investigative costs. For fiscal year 2008-2009, the restitution, recovery, and seizure collections totaled \$803,839.

Bureau of Administrative Services

The Bureau of Administrative Services is committed to efficiently supporting professional law enforcement through administrative leadership. The bureau provides organizational support to the sworn and civilian personnel of the Office of Agricultural Law Enforcement by managing personnel, finances, records, property and evidence, supplies, the vehicle fleet, Department property, data services, computer support, training, hiring, and accreditation. The Bureau of Administrative Services contains all core functions vital to the daily operations of Agricultural Law Enforcement.

Accreditation

On June 6, 2007, the Office of Agricultural Law Enforcement was awarded accredited status by the Commission for Florida Law Enforcement Accreditation (CFA). AgLaw has been working diligently to remain in compliance with all accreditation standards. State law enforcement accreditation is a three-year certification, and AgLaw anticipates participating in the reaccreditation process in the summer of 2010.

Training

The bureau's Training Section coordinates and delivers law enforcement and civilian training to all personnel, as well as other law enforcement agencies. The Training Section delivered over 7,000 contact training hours to sworn personnel. In addition to legal and ethics training, officers received training in high liability areas such as firearms, defensive tactics, and use of force. Officers also received training on elder abuse investigations, bloodborne pathogens, and dealing with people with mental health issues.

The Training Section partnered with Dr. Paul Whitesell, superintendent of the Indiana State Police, to present a series of lectures on law enforcement related issues.

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Dr. Whitesell presented "Issues of Leadership and Interpersonal Interaction for Police Executive," "Stress and the Police Family," and "The Psychology of Combat" to an audience of more than 100 law enforcement professionals.

The Training Section also partnered with Pat Thomas Law Enforcement Academy at the Florida Public Safety Institute to design and construct a firing range for the sole purpose of teaching the Cover and Concealment Course. The Training Section staff consulted with the Federal Law Enforcement Training Center in Glynco, Georgia, to determine the physical layout of the firing range. The Training Section staff developed the course curriculum and has delivered a train-the-trainer-type course to other high-liability instructors from other state and local law enforcement agencies.

Two members of the Training Section became certified TASER instructors through TASER International. These instructors conducted the first Dart-Firing Stun Gun course offered to AgLaw's sworn personnel. Additional TASER classes are scheduled during annual in-service training.

Domestic Marijuana Eradication Program

In January 2005 the Office of Agricultural Law Enforcement became the pass-through agency for the Outdoor Marijuana Eradication Program through the U.S. Drug Enforcement Administration. In January 2008 AgLaw assumed coordination of the Indoor Marijuana Eradication Program and became the Drug Enforcement Administration's point agency for this program in Florida. AgLaw's role involves collecting data and providing reimbursement funds to local law enforcement agencies for both indoor- and outdoor-grown marijuana.

During fiscal year 2008-2009, the bureau collected statistical data related to marijuana eradication missions from local law enforcement agencies around the state. Additionally, the Bureau of Investigative Services assisted in providing orientation and training opportunities to all law enforcement agencies throughout the state regarding information submission, reimbursement procedures, and investigative and detection techniques. The following chart outlines a brief synopsis of accomplishments for calendar year 2008:

OUTDOOR

Plots Eradicated	299
Cultivated Plants Eradicated	16,211
Bulk/Processed Marijuana Seized	309 pounds
Total Arrests/Charges Filed	130
Firearms Seized	84
Total Assets Seized	\$751,492.00

In comparison, the following chart outlines the accomplishments of the first six months of calendar year 2009.

OUTDOOR

Plots Eradicated	70
Cultivated Plants Eradicated	1,978
Bulk/Processed Marijuana Seized	10 pounds
Total Arrests/Charges Filed	49
Firearms Seized	36
Total Assets Seized	\$3,714.97

INDOOR

Plots Eradicated	350
Cultivated Plants Eradicated	22,751
Bulk/Processed Marijuana Seized	2,063 pounds
Total Arrests/Charges Filed	391
Firearms Seized	78
Total Assets Seized	\$1,654,972.97

Information Technology

AgLaw Information Technology supports several proprietary applications within the Bureau of Uniform Services. The Bill of Lading (BOL) and Commerce Transport Imaging System (CTIS) programs are installed at all 23 interdiction station locations. With CTIS, Florida is the only state in the nation able to track incoming and outgoing shipments of agricultural commodities, livestock, and plant material, archiving historical information on product origination and destination locations. The Bill of Lading Program is a joint interagency program which has imaged over one million documents for the Florida Department of Revenue for sales and use tax collections. Due to the success of this venture, collections of over \$171.7 million have been deposited to Florida's General Revenue fund over the life of this program.

A Tag Recognition System has been installed at all interstate locations and five side stations. This system documents every vehicle passing through these locations,

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providing a rapid verification of the time, date, and identity of every driver and vehicle that enters the stations. The program also images tags and sends queries to Florida Crime Information Center (FCIC) and the National Crime Information Center (NCIC), for possible criminal activity such as stolen vehicles, etc. A new module of the Tag Recognition System, which went online in 2008, also documents information on shipping containers which pass through the stations.

In addition, AgLaw Information Technology is responsible for the upkeep and maintenance of the Department's Emergency Operations Center. This site, located in the Rhodes Building in Tallahassee, includes redundant systems for communications, video feeds, and video conferencing that are available to support field operations during disaster situations. The center is also available as a backup location to the State Emergency Operations Center.

Three full-time IT positions support over \$1 million in equipment, for approximately 300 personnel located at 23 Interdiction Station sites and over 30 investigative office locations throughout the state.

Property and Evidence

The Property and Evidence Administrator serves three primary functions: inventory, uniforms, and evidence. The Department inventory is conducted yearly and involves traveling throughout the state to verify the locations of all AgLaw inventory items. The administrator also supplies approximately 270 law enforcement professionals with the uniforms and gear needed for their daily activities. In addition, the administrator manages the Rhodes Building Evidence Room while overseeing six other evidence rooms in the state assuring that evidence is collected and stored within the guidelines and rules set forth in Florida Statutes and Department policy.

Records Management

As of June 2007, AgLaw's Records Analyst has created a functioning electronic records management system in compliance with law enforcement accreditation standards and Florida Statutes. The system helps maintain all records created by agency employees, including paper, email, maps, books, tapes, disks, films, photographs, and audio-recordings. Video/audio equipment is avail-

able in order for the public to view or listen to requested materials.

Plant Protection, Inspection and Certification

The Division of Plant Industry is the plant protection arm of the Department. It works to detect, intercept, and control plant and honey bee pests and diseases that threaten Florida's native plant and agricultural resources. The division maintains these functions through five bureaus:

- Pest Eradication and Control
- Citrus Budwood Registration
- Methods Development and Biological Control
- Plant and Apiary Inspection
- Entomology, Nematology and Plant Pathology

This fiscal year, the division encountered new challenges with the discovery of new pests and diseases such as Texas Phoenix palm decline, orchid mealybug, rust disease (*Dianella tasmanica*), Argentine ant, and blue gum chalcid. The division continues to address known pests and diseases through the application of research, survey, and pest management including regulatory requirements and biological control. Some examples of these pests and diseases include huanglongbing or citrus greening, citrus canker, Africanized honey bees, colony collapse disorder, pink hibiscus mealybug, gladiolus rust, *Phytophthora ramorum*, and redbay ambrosia beetle/laurel wilt disease. The division has taken on additional responsibilities with new regulatory roles and programs such as aquatic harvesting permitting, the *Casuarina cunninghamiana* five-year windbreak pilot program, and the identification and abatement of abandoned citrus groves. In addition, the division is also on the lookout for new pests and diseases of agricultural importance such as fruit flies of economic importance, potato cyst nematode, pests and diseases in solid wood packing materials, laurel wilt in commercial avocado areas, light brown apple moth, and the emerald ash borer.

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Pest Eradication and Control

The Bureau of Pest Eradication and Control (PEC) assists in detection and response activities associated with harmful plant pests and diseases, particularly those affecting citrus. The bureau operates statewide from its headquarters in Winter Haven and four field offices located in citrus-producing regions of the peninsula including Avon Park, Immokalee, Tavares, and Vero Beach. The bureau performs survey and regulatory activities to carry out the mission of the Citrus Health Response Program (CHRP). This program was developed in cooperation with the Department, the U.S. Department of Agriculture (USDA), and the citrus industry to help mitigate the impact of citrus diseases, of which citrus canker and citrus greening are currently the most significant and devastating to Florida's citrus industry. With industry input and assistance, the cooperative efforts of the Department and the USDA are directed toward short- and long-term management, which will ensure a healthy Florida citrus industry today and in the future. Those efforts include surveying for citrus pests and diseases and monitoring existing disease including citrus canker, citrus greening, and the Asian citrus psyllid (ACP), which is the vector for citrus greening. This fiscal year, the bureau undertook a new survey initiative to locate and identify abandoned grove properties throughout the state to address the pest and disease risks associated with these often unmaintained groves.

Abandoned Grove Initiative

Through its CHRP program the state has been working cooperatively with county tax assessors and property owners to encourage the removal and destruction of these properties, offering abatement recommendations and tax incentives. This survey effort involving 31 counties across Florida began in mid-February and ended in April, and identified approximately 80,000 acres of abandoned grove properties. Owners are being contacted and asked to remove or destroy abandoned trees and are offered an agricultural tax incentive to do so if they comply with CHRP requirements.

Commercial Citrus Survey

During fiscal year 2008-2009, 139,609 commercial acres and 5,853 residential properties were surveyed under state CHRP operations. This included over 37,694 com-

mercial acres surveyed for fresh fruit export. Pre-harvest certification is required when the fruit is intended for certain foreign market shipment. Working with growers statewide, 20,327 acres were surveyed this season at their request. Surveys surrounding commercial nurseries were also conducted in accordance with regulations in commercial (8,676 acres) and residential (5,853 properties) areas to protect nursery trees from citrus diseases. In cooperation with the USDA, the bureau surveyed 72,913 commercial acres selected by USDA under their multiple-pest survey project targeting exotic citrus pests and diseases. This survey usually looks for citrus canker, citrus greening, and the Asian citrus psyllid, but was expanded this season to include exotic citrus diseases such as leprosis, citrus variegated chlorosis, and citrus black spot, which are not known to occur in Florida.



In cooperation with USDA, all PEC survey and regulatory teams remained focused on commercial citrus groves and the regulation of harvesting operations. Federal counterparts (USDA/APHIS) within the CHRP-regulated packinghouses inspected the fruit on the grading belts for canker lesions and regulated the movement of citrus fruit for markets beyond Florida's borders.

Psyllid Trapping and Aerial Spraying for ACP/Greening

The bureau assisted in two industry initiatives this year: the psyllid-trapping program and test aerial spray programs. The psyllid-trapping program was conducted in Indian River, St. Lucie, and Martin counties to detect and monitor psyllid populations. The test aerial spray program was held in the Gulf Coast and Indian River areas to test the effectiveness of aerial spraying on psyll-

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lid populations. These efforts were conducted to help control and manage citrus greening disease.

Regulatory

The regulatory branch enforces state statutes and works with industry to control and limit the artificial spread of pests and diseases such as citrus canker and citrus greening. Regulatory oversight includes registering companies to ensure they are aware of current rules related to the movement of regulated items and the requirements for decontamination to control the spread of disease for the protection of Florida citrus. Regulated articles include host plants and host plant parts (including branches, roots, fruit, and seeds), exposed equipment, and disease vectors.

Two new regulatory projects, the Citrus Greening and Canker Survey and the Business Plan Share Program, began in 2008. These projects have the potential to provide valuable feedback to citrus growers over the next few years. The survey project is a joint venture designed and implemented in cooperation with University of Florida's Institute of Food and Agricultural Sciences (UF-IFAS), USDA National Agricultural Statistics Service, and Florida Department of Citrus. This initiative gathers data from a sample of growers to project a statewide estimate of the incidence of citrus canker and citrus greening disease and grower management practices in relation to citrus greening and its vector, the Asian citrus psyllid. Results of the initial survey are expected to be published by UF-IFAS in September 2009. The Business Plan Share Program was created to assist growers in monitoring and controlling disease by providing scouting and sampling activities in groves for grove owners who volunteer to participate. There has been interest in the program, which now includes almost 1,400 acres of grove located in 20 different sections of the state.

The 2007 compliance agreements continue to be in effect, allowing flexibility for growers as they develop customized disease management programs. Compliance agreements are issued to citrus growers, caretakers, citrus harvesters, handlers, processors, and citrus packers to ensure that these companies or individuals are registered with the Department and are aware of the rules. The grower compliance agreements also include a fresh fruit application, which is required in order to ship fruit to restricted foreign markets such as the European Union (EU).

Other documents are also issued to citrus-growing and handling companies in order to control the movement of regulated articles as required, including stop-sale/hold orders, emergency action notifications and special permits. Reports of violation are issued for non-compliance, with penalties that range incrementally from a one-time administrative warning to a \$5,000 fine and revocation of the violator's compliance agreement. Penalties have been waived for this season, as the industry battles citrus greening disease and the Asian citrus psyllid. During the 2008-2009 fiscal year, 28,450 inspections were performed and 434 compliance agreements, 10 violations, and 4,387 harvesting permits were issued.

Public Relations and Education

The bureau works to keep the public and industry informed of its activities and services as well as to provide up-to-date information on current rules and requirements affecting the citrus industry. Presentations, industry updates, web sites, on-site training, and in-house training have been provided.

In October 2008, bureau staff participated in tours given to a visiting delegation from the Jamaican Citrus Protection Agency. Members of the delegation wanted information about citrus greening disease and the chance to observe greening management efforts in Florida. Field offices were involved in the itinerary and showed the visitors the division's methods of commercial survey and psyllid collection efforts for testing.

In summary, the bureau's function is one of support of Department efforts to ensure a healthy sustainable citrus industry into the future through survey and sampling, regulatory oversight, training, public education, gathering and reporting data for research efforts, and working in conjunction with other bureaus and agencies on behalf of Florida's citrus industry.

Citrus Budwood Registration

The Bureau of Citrus Budwood Registration oversees budwood certification in Florida's commercial citrus nurseries. The protection of Florida's propagating material is fundamental to ensuring growers receive disease-free trees to plant. Planting pathogen-infected trees is economically unsustainable and, at the very least, greatly diminishes farm profits. Disease-infected trees often are not noticed until after growers have absorbed several

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years of caretaking expenses on top of tree and planting costs. Budwood registration includes graft-transmissible pathogen testing of all propagating sources in Florida. Allowing only disease-tested material into the nurseries translates to disease-free plants leaving the nursery. The Bureau of Citrus Budwood Registration's foundation facility provides nurserymen with tested scion material for establishment of their own clean stock. The bureau's laboratory tests foundation and nursery propagating source trees routinely for the endemic graft-transmissible diseases of citrus.

This year's high point was the completion and opening of the Chiefland budwood foundation facility. The rapid startup of this project was a result of having clean, protected trees available to move from a Central Florida greenhouse to the new greenhouse without having to start over with newly budded trees. The fact that those pathogen-tested trees had been under protected greenhouse cover their entire lives accelerated the transition. In effect, budwood was made available almost from day one. The Chiefland greenhouses are in their second year of operation, and are starting to produce significant quantities of budwood. One hundred thirty-two thousand budeyes were cut from the Chiefland greenhouses this fiscal year, bringing the total budwood cut in the first year and a half to 174,210 eyes.



Nine hundred seventy-one tree spaces are planted at Chiefland, leaving room for only 164 additional trees. The planted trees represent 321 different clonal selections. The Chiefland foundation planting is 33.9 percent sweet orange, representing 52 different sweet orange varieties. Mandarins make up 27 percent of the

trees, representing 73 varieties. Grapefruit is represented with 22 varieties and makes up 9.3 percent of the planting. The greenhouse trees are inspected every day. Also, the perimeter of the structure is walked daily and closely scanned for any possible areas that could allow insect incursion.

The lowest temperature recorded outside the greenhouse during the winter of 2009 was 17 degrees. Inside the greenhouses the temperature never dipped below 50 degrees. Approximately 2,800 gallons of LP gas were used during the winter to maintain greenhouse temperatures, and at no time were more than 50 percent of the heaters operating.

A new office/headhouse building was added to the bureau's Chiefland foundation facility in 2008-2009. The new office includes a walk-in cooler for the optimal storage of budwood before shipment. A large workroom allows for trimming budwood in an air-conditioned environment, further optimizing the condition of the budwood. A conference room provides a place for small groups to meet and receive information on the budwood facility without having to enter the greenhouses. Because of the importance of minimizing any risk of pathogen contamination of the foundation clean stock, the greenhouse areas are off limits to visitors. To allow visitors to view the operation, a window has been placed in the side of the greenhouse.

The Immokalee UF-IFAS cooperative foundation greenhouse facility, which has not been used for budwood since the 2006-2007 fiscal year, has been partially top-worked to seed source varieties. Eleven different seed source varieties have been top-worked in greenhouse number two.

Since the advent of Florida's budwood program in 1952, more than 163 million registered nursery trees have been produced. Nursery capacity and production have been increasing for the past three years, after a four-year period of decline. Production levels have nearly returned to what was produced in the 2003-2004 season. Although the number of citrus nurseries is lower than it was five years ago, the average production per nursery has increased. The average nursery made 85,000 propagations this fiscal year. Forty-six percent of Florida's

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nursery trees are produced in Polk County, and this is where the majority of the citrus nursery inspectors are stationed. Forty-four commercial citrus nurseries reported making nearly 3.8 million propagations in 15 counties.

The bureau registered 8,665 scion trees this fiscal year. This is up 594 trees from last year. This represents 5,515 trees (64 percent) that are budwood sources and 3,150 trees (36 percent) that are seed source trees. Budwood sources are required to be grown in protected greenhouses that have to be approved by the Division of Plant Industry.

Bureau personnel witnessed the planting of 933 new scion trees this fiscal year, of which 415 are seed source. The average age of a budwood scion tree is 3.2 years. The transformation of the nursery industry from field to greenhouse in 2006 resulted in newly established protected budwood trees. While initially reducing the availability of budwood, the longer-term result is cleaner pathogen-free propagation material. Scion trees produced 51 percent of the nursery propagating material, with the average scion tree producing 878 budeyes in 2008-2009. Increase trees accounted for 45 percent of nursery propagation material. Qualifying increase trees, those originating from foundation trees, can be converted to scion trees by being witnessed and pathogen-tested.

This fiscal year, all program seed source and budwood scion trees were tested for citrus greening with no greening-positive trees being found. Seed source trees were all additionally tested for citrus leaf blotch virus, with only two trees testing positive. Budwood scion trees were also tested for citrus tristeza virus and citrus viroids. Collecting the samples from all 8,665 scion trees takes over three months. Additional pathogen testing then begins, once the tristeza tests are completed. All these tests are qPCR-based and the initial extraction is suitable for all subsequent tests. This is a very efficient and cost-effective means of testing source trees, as only one collection per year is required. In past years, multiple trips to nursery sites were required for sample collection. One trip is all that is now needed, due to the ability to detect all pathogens from the one extraction.

A total of 33,118 pathogen tests were run at the bureau's Winter Haven laboratory. The majority of these analyses were on scion trees and foundation trees. The Florida Citrus Arboretum had two additional HLB-positive trees this year, bringing the total of positives at this location to four. No budwood source trees were identified as being greening-infected. The old foundation grove at Dundee continues to struggle with citrus canker infection. Approximately 644 grapefruit trees were removed from the grove to reduce the risk of spreading canker inoculum to the sweet oranges. The original seed source block containing many Poncirus trifoliata hybrids, has been particularly hard hit by canker infection, with 65 percent of the trees being removed.

Hamkins and Valencias, the perennial favorite varieties produced, have consistently been the top two citrus varieties grown. Midsweet continues in third place, and is the top midseason variety. With Florida's citrus industry predominately producing an orange juice product, it is no surprise that these three sweet varieties are the most widely planted. Sweet oranges comprise 89 percent of the total nursery production. Grapefruit represent 4.7 percent of nursery propagations, and mandarin oranges, 4.1 percent. Ray Ruby was the most widely used grapefruit variety, and is also the number one variety being top-worked. Ruby Red is the second top grapefruit selection propagated, followed by Rio Red.

Methods Development and Biological Control

The Bureau of Methods Development and Biological Control was involved in several cooperative biological control programs during this past year, as well as technology transfer and other supportive functions for the division.

Rearing Programs for Biological Control Agents Caribbean Fruit Fly

The Biological Control Rearing Facility (BCRF) continued production of the Caribbean fruit fly (*Anastrepha suspensa*, Loew), rearing approximately 66 million flies. Various life stages were supplied to researchers and co-operators at the University of Florida, the USDA, and the Indian River Citrus League.

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Diaprepes Root Weevil

Mass rearing of Diaprepes root weevil (*Diaprepes abbreviatus*) continued at the BCRF to provide various life stages to researchers developing control strategies against this pest. During this reporting period, over 2,500 eggs, 17,830 neonates, 2,162 grubs, and 5,794 adults were shipped to nine different researchers.



Diaprepes Root Weevil and Parasite *Quadrastichus Haitiensis*

Biological control of Diaprepes root weevil (*Diaprepes abbreviatus*), was initiated in 1969 by introduction of the parasite *Quadrastichus haitiensis* from Puerto Rico. Mass-rearing methods were developed, and field releases of this parasite were started in late 1998. At present the parasite has been established in several locations in Miami-Dade and Broward counties. During fiscal year 2008-2009, 1,136,800 *Q. haitiensis* were sent to 23 cooperators in Florida.

Imported Fire Ant (*Solenopsis invicta*) and Phorid Flies (*Pseudacteon* sp.)

Mass rearing of the phorid flies, *P. tricusps*, *P. curvatus* and *P. obtusus*, continued at the BCRF as part of a joint venture with the USDA to release these parasitoids as biological control agents against the imported fire ant (IFA), *Solenopsis invicta*. This endeavor encompasses personnel and resources from DPI, USDA-ARS and USDA-APHIS, as well as several other agencies in many southern states. The majority of funding for the project continues to be provided via a cooperative agreement with the USDA-APHIS. Currently, 14 specially designed attack boxes are online, and over 3.4 million flies of all species combined were produced this fiscal year.

The USDA-APHIS Gulfport Laboratory in Mississippi continues to coordinate field release efforts with various federal and state cooperators. This past year the facility supplied *P. tricusps* to four states, *P. curvatus* to six states and *P. obtusus* to five states for release or research purposes. In the coming year, the plan is to continue distribution of all three phorid species to IFA-infested states. It is expected that these phorid flies and additional species will become successfully established throughout the entire southeastern United States within the next three to five years. These various phorid flies will work together to help suppress the IFA because they each attack different size worker ants at different times of the day. This allows for a reduction in pesticide usage and gives native ant species and other insects as well as ground nesting birds, reptiles, amphibians and mammals an opportunity to re-establish themselves in numerous environmental niches.

Pink Hibiscus Mealybug Biological Control Program

A cooperative agreement with USDA, initiated in 2005, continues to support a regional mass-rearing facility for parasites of pink hibiscus mealybug (PHM) *Maconellicoccus hirsutus* (Green). These biological control agents are released in Florida and other regions to control the spread of PHM. The PHM biological rearing facility produced a total of 2,332,763 parasites (*Anagyrus kamali* and *Gyranoidea indica*). Currently, there are 25 counties in Florida receiving parasites for release. Parasitoids were also shipped to Texas, Jamaica and the Cayman Islands for control of this invasive pest.

During this period, several crops of Japanese pumpkin, the preferred host of PHM, were grown in cooperation with the University of Florida using mulched-raised beds with drip irrigation at IFAS facilities in Citra and Hastings, and in 20-gallon pots at the DPI Methods field office located at the State Farmer's Market in Fort Pierce during the winter months. The crops were successful, producing 4,080 Japanese pumpkins weighing a total of 11,140 pounds.

Tropical Soda Apple Biological Control Program

This program, funded through a cooperative agreement with USDA, supports the mass rearing of the leaf-eating beetle *Gratiana boliviana* (Gb) for release as a biological control agent for the weed tropical soda apple (TSA),

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(*Solanum viarum*). During fiscal year 2008-2009, 18,155 adult beetles were reared at this facility and released in 18 counties throughout Central and North Florida to assist in the control of tropical soda apple. An additional 443 Gb of various life stages were given to other scientists for further research on the insect.

In September 2008, a survey was conducted to determine if Gb was present in all of the Florida counties where more than 10,000 head of cattle were reported. Random survey points were generated for each county. The survey indicated that Gb was present in most surveyed counties in Central and South Florida; however, very few if any beetles were found in counties of North Florida even though beetles had been released in many of these counties. The dividing line appeared to be about 29 degrees north latitude. The TSA Technical Working Group, comprised of scientists from the U.S. Department of Agriculture, UF-IFAS, and the Division of Plant Industry, conducted this survey. An article about the survey was published in The Florida Cattleman and Livestock Journal.

A follow-up survey was conducted during the winter and spring months of 2008-2009 to try to gain further understanding of these results. Results of this survey are still being analyzed to determine if a pattern exists.

West Indian Fruit Fly Biological Control Program

The West Indian fruit fly (WIFF), *Anastrepha obliqua*, attacks 74 species of fruit, including mangos, and has one of the broadest distributions of any pest tephritid. WIFF poses a significant threat to fruit production, due to its wide host range and distribution. Although it is not established in the continental United States, WIFF has been trapped in the Florida Keys, the Rio Grande Valley in Texas, San Diego, and Orange and Los Angeles counties in California. The populations in the Caribbean threaten the southeastern United States.

Three parasitoid colonies, *Diachasmimorpha longicaudata*, *Doryctobracon areolatus*, and *Utetes anastrephae*, were transferred from the USDA Center for Plant Health Science and Technology (CPHST) to the Division of Plant Industry at the beginning of the year in order to facilitate the technology transfer of the rearing methodologies and to maintain the colonies until facilities are developed in Puerto Rico.

Cycad Scale

Cycad scale, *Aulacaspis yasumatsui*, was first identified in Florida in Miami-Dade County in 1996. The infestation had apparently been present for a year or longer. This pest of cycads has since spread to at least 25 Florida counties where heavy infestations have been reported from Alachua to Miami-Dade counties. In February 2002 the Division of Plant Industry collected the parasitoid *Coccobius fulvus* from infested cycads in the Naples area and released about 11,000 of these parasitoids in about 15 infested counties extending from the Orlando area south. Unfortunately, surveys during the past three years have indicated that *C. fulvus* from Thailand has not provided the desired level of control of Asian cycad scale populations.

During the search for natural enemies of cycad scale funded by UF-IFAS and DPI, Dr. Ren Hui found *C. fulvus* in Guangdong, China. A parasite from Guangdong was collected and sent to the Gainesville quarantine laboratory in October 2004. A permit for release from quarantine was granted in June 2005. In early fall of 2005, 2,300 *C. fulvus* were released in the Gainesville area. *C. fulvus*, Chinese biotype, was found to be established in Alachua County. The survey of six locations in Gainesville on November 13, 2007, showed that about 25 percent of cycad scales were parasitized by *C. fulvus* (range: 1.9 percent to 52.6 percent). No parasites were found in those locations prior to releasing in 2005. Additional shipments of cycad scale and its natural enemies were received from Vietnam in March 2006 and from China throughout the fiscal year. A search for the natural enemies of cycad scale in Thailand and North Vietnam was conducted by Dr. Ru Nguyen (DPI) and Dr. Ron Cave (IFAS) in October 2007. Two parasites, *Aprostocetus purpureus* and *Arrhenophagus chionaspidis*, and *Phaenochilus* sp. were collected during that trip. According to Dr. Natalia Vandenberg, USDA-ARS, *Phaenochilus* sp. is a new species. Host range tests showed that this lady beetle is a good predator of armored scale such as *Aulacaspis yasunatsui* and *Aonidiella orientalis* (magnolia scale) but does not feed on aphids or mealybugs. Colonies of this ladybug are kept in quarantine laboratories in Gainesville and Fort Pierce. A request for field release of this predator will be submitted to USDA-APHIS-PPQ in the near future. Populations of *A. purpureus* and *A. chionaspidis* died in the quarantine laboratory in January 2008.

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Asian Citrus Psyllid

Division of Plant Industry personnel discovered Asian citrus psyllid, *Diaphorina citri*, at Boynton Beach on June 2, 1998. It had spread to 28 counties by 2001. It is one of the most efficient vectors of citrus greening disease (huanglongbing). In cooperation with UF-IFAS, two parasites of *D. citri*, *Diaphorencyrtus aligarhensis* and *Tamarixia radiata* from southern Vietnam and Taiwan, were introduced in DPI's quarantine laboratory on October 21, 1998. A permit for field release of *T. radiata* was granted on July 12, 1999, and for *D. aligarhensis* on March 10, 2000.

In fiscal year 2008-2009, approximately 45,326 *T. radiata* and 10,832 *D. aligarhensis* were reared and released from the Division of Plant Industry's laboratory. A statewide survey conducted by Dr. Juang-Horng Chong (USDA-APHIS) in 2006 found that *T. radiata* has been established in 23 counties south of Volusia County. However, a study conducted in 2005-2006 by Drs. P.A. Stansly, D.G. Hall, M.E. Rogers and J.A. Qureshi in 28 commercial citrus groves across 16 counties in South and Central Florida reported that an average percent parasitism was less than 20 percent in spring and summer. This rate was lower than those in Reunion, Taiwan, Guadeloupe, and Puerto Rico. No hyperparasitoid of *T. radiata* was detected during the survey.

DPI staff continues to monitor the effectiveness of these parasites and to search for new parasite biotypes in Asia. In September 2006 Dr. Ru Nguyen (DPI) and Dr. Ron Cave (IFAS) collected a new biotype of *D. aligarhensis* in Guangzhou, Guangdong, China. A field release permit of this biotype was granted by USDA-APHIS-PPQ on June 1, 2007. In July 2007, Dr. Cave and Dr. Nguyen collected *T. radiata* in Bac-Ninh Province, northern Vietnam. Dr. Rehman collected *T. radiata* from Punjab Province, Pakistan, in September 2008, and Dr. Phil Stanly (IFAS) collected it in Guangdong Province, China, in November 2008. Those biotypes of *T. radiata* have been reared in DPI's Quarantine Laboratory in Gainesville. A permit for field release of these biotypes was granted by USDA-APHIS-PPQ on July 9, 2009.

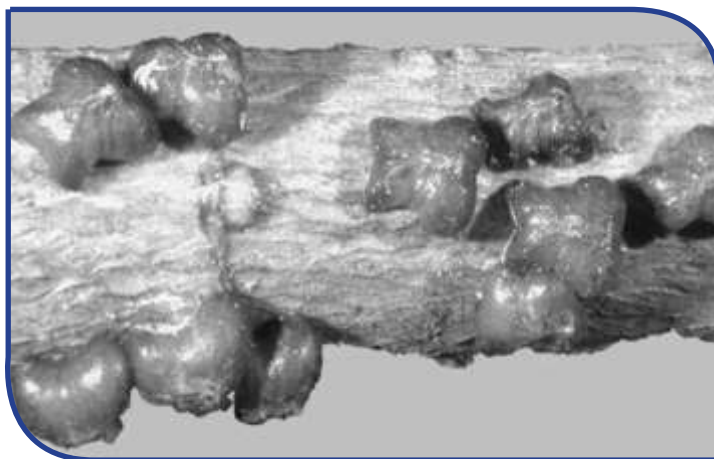
Citrus Leafminer

Ageniaspis citricola, a parasite of citrus leafminer, *Phyllocnistis citrella*, was imported from Australia and Taiwan and began to be released in May 1994 throughout

Florida. This parasite has been established and widely distributed and provided good control of citrus leafminer in Florida. The parasitism rates of this parasite in October 1996 were 80 percent on dooryard citrus and 60 percent in commercial groves. However, citrus leafminer populations were high in 2002, especially on young groves. To complement *A. citricola*, *Citrostichus phyllocnistoides* from Spain was introduced into the division's quarantine laboratory in July and August 2003. A permit to release *C. phyllocnistoides* from quarantine was granted in May 2006, and subsequent releases were initiated in Immokalee in June 2006. During fiscal year 2008-2009, 19,931 parasites were released.

Lobate Lac Scale

Lobate lac scale, *Paratachardina lobata*, was first found in Broward County in 1999. This species, from India and Sri Lanka, has rapidly become a serious pest of several ornamental and native plants in South Florida. Cooperative efforts with UF-IFAS and USDA-ARS, Fort Lauderdale, are under way to secure and introduce parasites from its native land. Two shipments of *Kerria lacca*, a commercial lac scale, collected from Thailand, were sent to the quarantine laboratory in October 2003 and March 2004. Six parasites and two predators emerged from the shipment in March, and over 1,000 parasitoids representing three species emerged from the March 2004 shipment. Among those parasites, *Coccophagus tschirchii* and *Tachardiaeaphagus tachardiae* were listed in the literature as primary parasites of *K. lacca* and lobate lac scale. Unfortunately, neither parasite could be reared on lobate lac scale in the quarantine laboratory in Gainesville.



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Several shipments of lobate lac scale were collected from India and sent to Fort Lauderdale Quarantine Laboratory in from 2005 to 2007. According to Dr. Bob Pemberton, USDA-ARS Fort Lauderdale, two species of parasites emerged from those shipments, but they couldn't be reared on lobate lac scale in Florida. Later, Dr. Pemberton said that DNA analysis of scales collected from India and Florida indicated that those scales are different. It is likely that the lobate lac scale in Florida is a new species. The search for natural enemies of lobate lac scale is still continuing by USDA-ARS, Fort Lauderdale.

Cactus Moth

The BCRF continues rearing the cactus moth, *Cactoblastis cactorum*, as part of a cooperative agreement with the USDA to help combat this recently introduced pest in the southeastern United States. The overall goal of the program is to establish a barrier at the current leading edge of the cactus moth spread utilizing the sterile insect technique (SIT). In SIT, large numbers of sterile or partially sterile insects are mass reared and released to mate with the wild population, producing either no progeny or sterile ones. This barrier will prevent the spread of the cactus moth to the Midwest and western regions of this country and into Mexico. If the geographic range of the moth expands westward, it will cause serious damage to the desert ecosystems and agricultural production of the southwestern United States and Mexico.

The facility reared over 233,958 moths on artificial diet during this past year for both colony maintenance and for SIT field releases. Further investigations and research trials continue for disease management techniques and for increased production performance.

Technique Development Laboratory

The bureau's technique development laboratory has been involved with investigation into the developmental phases of *Cactoblastis cactorum* for the SIT program. Tests include experimentation of ingredients in insect diets, disease identification and quantification, improvements to percentage yield from each life stage, maximization of larval density, elimination of infective agents, and reduction of the rate of spread, increasing the total number of adults produced and targeting field release dates with peak adult production and quality.

A standard operating schedule was developed for high-density rearing that is now in effect in the production area. This schedule addresses infest rate, diet changes, sanitation, humidity, and disease management. This schedule was designed for a one-week development cycle from first egg hatched to last pupa collected.

Production of quality sterile (irradiated) adult moths has been the primary focus of this lab. Methods were developed for the conditions and equipment at DPI to allow peak production of adult moths to coincide with anticipated release dates in the field for SIT releases. Quality control measures have been developed and implemented which improve total adult emergence and overall health of the colony.

Florida Accelerator Services and Technology (FAST)

FAST completed the new beam centerline guide assembly installation in October 2008.

The linear accelerator modernization and service life extension program continues with the June 2009 purchase of a new industrial computer that controls accelerator operation.

FAST completed a radioactive materials security assessment conducted by the U.S. Department of Energy (DOE), National Nuclear Security Administration, Global Threat Reduction Initiative (NNSA-GTRI) and has agreed to enhance the physical security of DPI's Cesium 137 irradiator. This DOE-NNSA-GTRI-funded project is scheduled to begin in August 2009.

FAST continues to provide electron beam and gamma irradiation services in support of research and biological control programs conducted by the Department, the University of Florida, USDA, and private industry. Products irradiated include: tomatoes, potted plants, plant tissue, bahiagrass for bio-fuel research, rice, strawberry seed, banana seed, and bio-burden reduction for cactus moth and diapaes insect diet. For biological control programs: cactus moth adults, Caribbean fruit fly pupae and larvae, and apple snail eggs. For commercial customers: silicone substrate for semiconductor manufacturing.

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Caribbean Fruit Fly Research and Activities

This office maintains three continuous Caribbean fruit fly trap lines using plastic McPhail-type traps in portions of Indian River, Martin, and St. Lucie counties. These traps are serviced weekly and the results, showing number of flies caught by sex as well as species and condition of host plant, are tabulated for later reference concerning the variation in the seasonal Caribbean fruit fly population. These data support the Caribbean Fruit Fly Certification Program trapping information on fly populations in the urban area and are useful when conducting tests that involve the use of biological control agents or other suppression/control programs. These data were also given to another agency that included it in their larger GIS program.

A study to search for unknown hosts of the Caribbean fruit fly continues. Many species of ripe fruit collected off the tree or under the tree are incubated to see what species of insects develop in them. While no new hosts for Caribbean fruit fly were discovered, new relationships of these fruits to other insects were discovered.

Training and Compliance

Bureau personnel continued to provide employees with training and testing for Restricted Use Pesticide (RUP) Licenses, coordinate employee pesticide license applications and maintain records of CEUs for those licenses, provide recordkeeping for Right-To-Know and Material Safety Data Sheet (MSDS) files, coordinate disposal of hazardous chemicals produced at the division, and provide security monitoring of the Gainesville facilities.

Fumigation/Miscellaneous Activities

Fumigation of specimens, books, and reprints for the Florida State Collection of Arthropods continued at DPI in Gainesville and University of Florida fumigation chambers. Annual evaluations and certifications of methyl bromide fumigation chambers used for blueberry fumigation were conducted during this period.

Personnel conducted bioassays and bulk density determinations to comply with Imported Fire Ant Program regulations.

Bureau personnel often aid with document translation, tours of facilities, and daily oversight and support of employees and community organizations using Doyle

Conner Building facilities.

Plant and Apiary Inspection Plant Inspection

At the end of fiscal year 2008-2009, there were 7,865 nurseries (9,804 block locations) with an inventory of 633,843,076 plants classified as nursery stock. There are 3,354 nursery stock dealers (8,012 outlet locations) registered with the Department. Inspectors made 37,531 inspections of nursery and stock dealer establishments. As a result of these inspections, 122,958 plants were quarantined. There were 9,882 federal and 7,156 state certificates issued for shipments of plants and plant products exported from Florida.

Department personnel inspected 30,485 shipments of plants and plant products imported into Florida from other states and countries, including 2,511 shipments of nursery stock. These inspections resulted in 416 (141 for nursery stock) regulatory actions for plant pests of quarantine significance. A total of 7,316 soil and root samples were collected and analyzed specifically for burrowing nematodes as required by the Burrowing Nematode Certification Program. The Burrowing Nematode Certification Program has 1,269 ornamental nurseries under certification as of June 30, 2009.

Department personnel tended 222 gypsy moth traps in North Florida. Other seasonal traps include boll weevil traps and European corn borer traps. Department and USDA personnel tended more than 166,914 traps for exotic fruit fly detection.

Commercial Citrus Nursery Inspection Program

As of June 30, 2009, there were 54 citrus-propagating nurseries certified and inspected on a 30-day cycle representing 245 greenhouse structures. There are 34 locations that are identified as commercial (certified free of burrowing nematode) citrus nurseries. Additionally, there were six own-use, seven research-only, three dooryard, and four commercial/dooryard citrus nurseries. Commercial citrus nurseries are inspected by six commercial citrus inspectors. These inspectors are restricted from inspecting more than one nursery per day to prevent transport of citrus diseases/pests between nurseries.

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Pink Hibiscus Mealybug

Between July 1, 2008, and June 30, 2009, division personnel witnessed the destructions of 1,076 plants as a result of pink hibiscus mealybug (PHM). During this period, plant inspection personnel spent 1,971 hours working on PHM-related issues. There were 40 quarantine actions to nurseries and nursery stock dealers for PHM; as of June 30, 2009, 18 of those locations currently have plants that remain under quarantine.



Gladiolus Rust

Uromyces transversalis, the causal agent of gladiolus rust (GR), is an obligate parasite that grows and reproduces only on members of the family Iridaceae, including *Gladiolus*, *Tritonia*, *Crocasmia*, and *Watsonia* spp. GR was confirmed to be present in the United States in April 2006. As of June 30, 2009, regulatory actions and eradication efforts continue at two locations in a cooperative effort between USDA and the Division of Plant Industry. Inspectors have spent 5,068 hours conducting surveys and control measures for gladiolus rust.

Violations, Stop-Sale and Hold Orders

Between July 1, 2008, and June 30, 2009, Division of Plant Industry personnel issued two administrative complaint letters and inspectors issued three complaints of violation. None of these violations resulted in monetary penalties. There were 857 stop-sale and hold orders for failure to renew annual registration. During the same period, 587 stop-sale and hold orders have been released as a result of fee payment or going out of business. Bureau personnel also issued 43 stop-sale and hold orders for restricted aquatic plants, and pests and diseases such as citrus canker, citrus greening, pink hibiscus mealybug, violation of division Rule 5B-62 (citrus

nursery propagation) and division Rule 5B-62 (citrus canker, greening and ACP plant pest and nuisance), Florida Administrative Code.

Caribbean Fruit Fly Certification Program

The Caribbean fruit fly is a serious pest of many tropical and subtropical fruits of Central and South Florida. The fly-free zone certification protocol was developed to certify citrus fruit as free of Caribbean fruit fly larvae. Bermuda, Brazil, Colombia, Ecuador, Japan, Korea, New Zealand, Philippines, Thailand, the People's Republic of China, Vietnam, and the states of California, Hawaii and Texas have accepted this certification procedure, which is fully funded by grower assessments. Fruit shipped to these areas must originate in specific Caribbean fruit fly controlled or designated areas in citrus-producing counties approved for shipment of fruit.



In the 2008-2009 season, 102,480 acres were certified in 22 eligible counties. The protocol establishes a safe and effective procedure for exporting citrus to areas requiring quarantine safeguards. Japan is currently the largest importer of fresh Florida grapefruit. This season, 6,195,442 cartons of citrus fruit were shipped to Japan under the protocol certification program.

Boll Weevil Eradication

At the close of the 2008 cotton-growing season, there were 276 commercial cotton producers in the state. These producers planted 65,340 acres of cotton in 13 counties, a decrease of 17,914 from the 2007 growing season. Throughout the 2008 cotton growing season, there was no boll weevil trapped in the state.

Imported Fire Ant Certification Program

As of June 30, 2009, there were 1,289 nurseries and stock dealers under compliance agreement for Imported

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Fire Ant (IPA) certification purposes. This compares to a total of 1,249 nurseries and stock dealers under compliance on June 30, 2008. During this period, plant inspection personnel spent 9,879 hours associated with IFA activities.

Casuarina Cunninghamiana Wind Break Pilot Program

Beginning in July 2008, the *Casuarina cunninghamiana* five-year Windbreak Pilot Program was implemented by Chapter 581.091, F.S., which allows under permit registered nurseries to vegetatively propagate *Casuarina cunninghamiana* from certified male source trees for planting as windbreaks under permit in commercial fresh fruit groves in the areas of Indian River, St. Lucie, and Martin counties. There were 21 trees certified as mature males and horticulturally true to type source trees, five permits issued to certified nurseries for propagation, and one permit issued for planting *Casuarina cunninghamiana* in a grove in Indian River County. During this period, plant inspection personnel spent 544 hours associated with *Casuarina cunninghamiana* activities.

Aquatic Harvest Permitting

Beginning in July 2008, the Division of Plant Industry took over the regulatory authority of permitting for the importation, transportation, cultivation, collection, sale, or possession of any aquatic plant. Non-prohibited aquatic plant harvesters are now required to be registered as a nursery and sign a compliance agreement/permit to harvest non-prohibited aquatics. As of June 30, 2009, the division issued 27 aquatic harvesting permits.

Native Flora Harvesting Permitting

Harvesting Endangered and Commercially Exploited plants requires individuals to have a permit issued by the Division of Plant Industry. Between July 1, 2008, and June 30, 2009, the division issued 71 permits, compared to 51 permits issued during the same period last year.

Compliance Agreements

Compliance agreements are used by the Department to bring establishments into compliance with applicable requirements for handling regulated materials. Each compliance agreement is reviewed and signed off by the regulated establishment once a year. Between July 1, 2008, and June 30, 2009, there were 31 different types of

compliance agreements completed by 1,986 establishments.

Apiary Inspection

This fiscal year, of the 230,221 honey bee colonies maintained by registered Florida beekeepers, there were 62,469 colonies inspected from 2,712 apiaries. Compensation in the amount of \$930 was paid to beekeepers for 42 honey bee colonies destroyed because of infestation of American Foulbrood Disease, a bacterial disease of honey bee larvae. There were 121,551 colonies that moved into Florida from 15 different migratory states and 125,145 colonies shipped from Florida to 24 different states.



In addition to regulatory responsibilities, the Apiary Section has educated thousands of citizens, tourists, and businesses in Florida and worldwide on the importance of honey bees and their place in agriculture.

Honey Bee Health Issues in Florida

Honey bee health issues or challenges in Florida resulted in a 33 percent loss of honey bee colonies in 2008-2009 due to the parasitic varroa mite and the tracheal mite, *Nosema apis* and *ceranae*, Israeli Acute Paralysis Virus (IAPV), American Foul Brood (AFB), European Foul Brood (EFB), and other viruses and bacteria which contribute to what is known as colony collapse disorder.

Florida beekeepers continue to produce some of the finest varietal honeys in the world. However, honey produced on a production scale does not return the revenue needed to solely allow this industry to compete with low-cost imported honey. Revenue produced from fee-based pollination of an extensive list of crops provides

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the extra level of margin to keep commercial beekeepers solvent. Pollination of Florida crops adds significantly to the \$100 billion value of this important resource. Thirty-five percent of the calories in the typical daily diet is commonly provided by the plants honey bees pollinate.

After a close examination of honey bees, their nest and foraging environment, pests, parasites and disease management, a variety of stressors have been identified. Pests, parasites and diseases introduced from outside of the United States continue to be identified as primary honey bee stressors.

External and internal honey bee mite parasites have weakened managed honey bee colonies and virtually eliminated feral European honey bee populations. Chemical miticides provided to control these destructive parasites may have negative long-term effects on honey bee populations. Introduced pathogens such as *Nosema ceranae*, and viruses such as the Israeli Acute Paralysis Virus that have limited control methods, have been discovered and implicated in honey bee health declines. Honey bee health may also be compromised by incomplete nutrition when the honey bees are confined to pollination/foraging activities in large mono-culture crops, which, in turn, can impact their immune system. Agricultural pest and disease control chemicals as applied topically or systemically on crops can unintentionally negatively impact the honey bee. Growth and development in Florida are crowding out various parts of the agriculture sector. Locations for beekeepers are being limited, making this profession more difficult.

Healthy honey bees mean a healthier, more robust beekeeping industry, which is beneficial to Florida agriculture. The business model for the commercial beekeeping industry is changing. Acceptance of yearly 30 percent losses, dependence on pollination revenue to complement honey production, and loss of smaller beekeeping businesses as others grow is not a sustainable business model.

The number of part-time beekeepers has grown tremendously, adding 30 percent to the listing of registered beekeepers. These "hobby" beekeepers are actively engaged in forming new local and regional associations, training, educating, and advertising the value of honey bees to the

general public in an effort to protect beekeeping.

Despite the increase in the number of beekeepers, Florida's honey bee colonies continue to lose vitality. Honey bees are simply not healthy, which makes commercial beekeeping in Florida less attractive and more precarious. Research on many fronts is under way to help improve overall honey bee health.

Africanized Honey Bee (AHB)

The Africanized Honey Bee (AHB) is an invasive insect that will eventually dominate the feral environment of Florida and the southeastern United States. Currently, the AHB is multiplying its population from a line that goes from the east coast to the west coast of Florida bisecting Orlando. Non-fatal stinging incidents involving people, pets, livestock, and wildlife are increasing, as expected. As an example, the Miami-Dade Venom Response Team responded to approximately 400 AHB stinging incidents in 2008.

The Apiary Section continues planning and leadership on AHB educational outreach initiatives. Hundreds of thousands of Florida citizens and state, county, and municipal authorities have been trained on proper responses to avoid stinging incidents.



DPI has partnered with UF-IFAS on two levels for a comprehensive approach to AHB training. The first level involves training by Dr. Bill Kern for first responders (fire departments emergency rescue personnel and police). The second level involves the creation of the African Honey Bee Extension and Education Program (AFBEE) at UF-IFAS by Dr. James Ellis. AFBEE is designed to

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provide all of Florida with timely safety and eradication recommendations for AHB.

The Africanized Bee Identification Laboratory continues to operate under a backlog of samples submitted by apiary inspectors, UF-IFAS, pest control operators and concerned citizens.

Best management practices for beekeepers continue to be offered to registered beekeepers as a way to maintain manageable honey bee colonies and good relations with the public.

DPI, in coordination with other stakeholders in agriculture, state, county, and local government agencies, UF-IFAS, first responders, schools, hospitals, and many others, continues to develop tools and training to protect the beekeeping industry and educate the public on how to effectively and safely deal with this potential danger. The transition to a feral bee population dominated by AHB in Florida continues. DPI continues to do everything possible to avert and delay additional human fatalities by AHB in Florida.

Apiary Research Activities continued through DPI

(1) Increasing African Honey Bee Awareness via the African Honey Bee Extension and Education Program (AFBEE), Dr. Jamie Ellis, University of Florida/Institute of Food and Agricultural Sciences.

(2) African Honey Extension Education, William H. Kern, Jr., University of Florida/Institute of Food and Agricultural Sciences.

(3) Field Testing of Ozone (O₃) as a Fumigant for Honey Bee Comb, Dr. Rosalind James, USDA-ARS, Logan, Utah.

(4) Bee Pests and Pest Bees: Reducing the Impacts by Nosema and Africanized Bees, Dr. Jay Evan, USDA-ARS, Beltsville, Maryland.

(5) Integrated Pest Management for Honey Bees, Dr. Paul Jepson, Oregon State University, Corvallis, Oregon.

(6) Quantifying the Exposure and Effect of Former Applied Pesticides on East Coast Migratory Operations Starting the Season in Florida, Dennis van Engelsdorp,

Pennsylvania State University, University Park, Pennsylvania.

(7) Identification of a Diet Supplement to Improve Honey Bee Health, Dr. Amanda Ellis, FDACS/DPI/Apiary Section, Gainesville, Florida.

(8) Determining Optimum Varroa Mite Economic Treatment Thresholds and Powdered Sugar Efficacy Trials, Dr. Amanda Ellis, FDACS/DPI/Apiary Section, Gainesville, Florida.

(9) Investigate the Use of Small Cell Foundation as a Tool for Varroa Mite Control, Dr. Amanda Ellis, FDACS/DPI/Apiary Section, Gainesville, Florida.

Industry Status

The commercial apiculture industry continues to face challenges with honey bee health issues, low honey sales, loss of habitat, loss of agriculture, and loss of apiary sites in Florida. The part-time beekeeping industry continues to grow, due to increased awareness of the importance of honey bees.

Honey bee health: The Varroa mite, an external parasite, continues to be the most significant honey bee health concern. Controlling the mite without damaging the honey bees or colony is still a challenge.

Honey sales: Honey as produced on a commercial scale is a commodity. The low-cost producer always wins the commodity competition. Asian honey producers are the low-cost winners. They dominate the market and make honey-only production a flawed business model for Florida beekeepers. High-value Florida honey, such as tupelo and orange blossom, are still popular with the public.

Pollination business model: Many crops, such as almonds, cranberries, blueberries, and apples, are grown on vast acreage that requires honey bees for pollination and crop production. They absolutely require honey bees to produce a crop. Large mobile commercial beekeepers in Florida leave the state to participate in fee-based pollination.

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Entomology, Nematology and Plant Pathology

Entomology

The Entomology Section completed 11,082 separate identifications this year involving 341,042 specimens. During that same period, 19 exotic species were found established within the state, three of which represented new U.S. records.

No old paper-based records were entered into the computer database, but all the old Paradox records were combined into a single Access database with 138,480 records.

Significant New Arthropod Records

Acari

Diptilomiopus assamica Keifer, an eriophyid mite: A slight infestation was found on a sour orange tree in Hollywood, Broward County, in September, representing a new continental record. This species was reported previously from India and Australia on citrus. This mite does not seem to be an important pest, due to very low numbers, and is unlikely to be a pest on plants other than citrus.

Coleoptera

Carthosilvanus vulgaris (Grouvelle), a silvanid flat bark beetle: Specimens were collected in a blacklight trap at the Port Manatee Forestry Terminal in October 2008. This is a neotropical species not previously known from the United States; the collection was a continental record. This beetle is not of economic importance. It lives under bark and feeds on fungi.

Diptera

Liriomyza huidobrensis Blanchard (a pea leafminer): This was intercepted on *Molucella laevis*, (bells of Ireland). This is the first positive identification of this highly invasive leafminer in Florida. This pest has possibly been intercepted on other imported commodities coming into Florida over the years, but never with a positive identification because DNA sequence data are needed to distinguish it from another commonly intercepted pest, the California pea leafminer, *Liriomyza langei*. The identification was confirmed with DNA sequence data showing >99 percent homology with *L. huidobrensis* vs. ~95 percent homology with *L. langei*, and much lower

homology with other *Liriomyza* species. The specimens were reared from cut foliage. Tracing the origin of the foliage was not possible because the vendor could not be located. No plant material was submitted to confirm the host species.

Hemiptera

Halyomorpha halys Stål, brown marmorated stinkbug: Specimens were found in a home in Plant City, Hillsborough County, on September 28, 2008. The infestation apparently arrived with household possessions moved from New Jersey. Another population was found in Polk City, Polk County, in February 2009 in a motor home belonging to a seasonal resident from an infested state. The only previous record of this species in Florida was a single specimen collected alive in a Jackson trap at Port Everglades in March 2006. Surveys near Port Everglades revealed no subsequent finds of the pest. The brown marmorated stinkbug is a serious pest of cultivated plants and a significant urban nuisance.

Haplaxius (=Myndus) *crudus* (Van Duzee), American palm cixiid planthopper: Specimens of the vector of lethal yellows of palms were found at the DPI property throughout the fall and in the early spring of 2009, indicating that the species over-wintered in Gainesville. Previously, it was thought that lethal yellow disease was limited to South Florida because the vector was not present further north. Now it appears that the presence of the cixiid vector is not the limiting factor for disease spread.

Eupteryx decemnotata Rey, Ligurian leafhopper: A specimen was intercepted on rosemary topiaries from California at a discount store in Palatka on December 3, 2008. Subsequent surveys showed that the species was established in California, but no further specimen was found in Florida.

Hymenoptera

Leptocybe invasa Fisher and LaSalle, blue gum chalcid wasp: A moderate infestation was found on a plant at a residence in Lauderhill in Broward County and is a new continental record. This species, found on *Eucalyptus*, is an Australian gall wasp new to Florida and the United States. Within the past decade, it has become established in the Mediterranean Basin, several African countries, India, Southeast Asia, and Brazil. As *Eucalyptus* is used as both an ornamental and commercial tree in Florida, *L. invasa* has the potential of becoming a

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problematic pest. The wasp forms galls on new growth of young trees and seedlings, stunting growth. When large concentrations of these wasps are present, all new growth is susceptible to damage. The impact on adult trees is unknown.

Lepidoptera

Grapholita angleseana (Kearfott), wild-strawberry seed borer: The species was first identified for Florida in 2008 from specimens caught in 1974 in Gainesville. It occurs in northeastern states, but had not been reported from Florida before. Specimens were in backlog material in the FSCA collection. Hosts include wild strawberry (*Fragaria* spp.) in northern states. It is not known to attack commercial strawberries but should be watched for possible feeding on any plants in the strawberry group.

Dryadula terpsichorella (Busck), dancing moth: First recorded in Florida in late 2007 and subsequently noted to have several outbreaks in the Gainesville area during 2008. The moth occurs in Hawaii and California as well. It is a detritus feeder and does not present an economic problem for Florida. The adults may be noticed in swarms but feed only on plant debris.

Cacocharis albimacula Walsingham, Caribbean gooseberry-tree leaf-tier: This West Indian and Mexican species was first recorded in Florida on November 18, 2008, and again on December 3, 2008, in Miami. A related species is native to southern Florida. Both species are of only modest economic concern, feeding on gooseberry tree (*Phyllanthus acidus*).

Cydia erotella (Heinrich), Loblolly pine gall moth: The species was first reported for Florida in 2008 from specimens identified caught in 1975, 1983, 1989, and 1999. The Florida records are for Alachua, Miami-Dade, Gulf, and Santa Rosa counties. The larvae invade loblolly pines and make pitch galls in branch ends. The species appears to be of minor concern. It occurs in the southeastern United States.

Cydia nigriargentis Heppner, black southern pine moth: First described in 2008, this dark brown and black moth occurs throughout the pinelands of Florida and adjacent states. It has been collected in Florida since 1972. The actual host plant is not known, but presumably is a pine, based on what related species feed on, but there

seems no notable economic damage from the moth in Florida.

Comotia torsicornis Dyar, Sapodilla flower moth: This Central American species was reported for Florida during 2008 from a specimen caught in Homestead in June 2008. Further identifications made on specimens caught in southern Florida in 1992 proved to be the same species. The Homestead specimen was reared from sapodilla buds (*Manilkara zapota*), so the host plant is recorded for the first time as well. The species appears of minor importance for sapodilla cultivation.

Florida State Collection of Arthropods

Donations to the Florida State Collection of Arthropods totaled more than 71,998 specimens, valued at \$430,526. Eight tours involving 95 students and adults took place during the 2008-2009 fiscal year.

DPI Arthropod Quarantine Facilities

At both facilities, work continues on testing possible biological control agents, previously brought in under permit to quarantine, to control melalucica, tropical soda apple, cycad scale, Asian citrus psyllid, *Metamasius* bromeliad weevil, Jamaican nightshade, and Brazilian pepper. The following significant developments occurred this past year:

Florida Biological Control Laboratory: This facility houses DPI, UF-IFAS, and USDA staff. The USDA-ARS Old World Climbing Fern Biological Control Project moved from the Florida Biological Control Laboratory in Gainesville to the Invasive Plant Research Laboratory in Fort Lauderdale. This made room for the new USDA-ARS Chinese Tallow Biological Control Project. Currently, two beetles are being tested as possible biological control agents: *Heterapoderopsis bicallosicollis* and *Bikasha collaris*.

Biological Control Research and Containment Laboratory: The Biological Control Research and Containment Laboratory (BCRCL) at the University of Florida Indian River Research and Education Center is a cooperative program between UF-IFAS and DPI. Under this cooperative, DPI and UF personnel released under federal permit approximately 1,200 *Lixadmontia franki* (Diptera: Tachinidae) to help control *Metamasius quadrilineatus*, a pest of bromeliads in Florida.

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Fruit Fly Identification Laboratory

Approximately 1,273,150 total fruit flies were screened and processed during this time in support of the Co-operative Sterile Preventive Release Program and the Caribbean Fruit Fly Free Certification Program. Delimitations for economic fruit flies from the previous year were successfully completed with no further fruit flies of economic importance being detected in Florida during fiscal year 2008-2009.

Approximately 250 combined personnel (division plant inspectors and USDA-APHIS-PPQ fruit fly survey specialists) serviced more than 55,000 total traps on 14- and 21-day intervals as part of the Cooperative Fruit Fly Detection and Surveillance Program for the state. A total of 1,132,152 trap inspections were conducted during fiscal year 2008-2009. Of the traps inspected, 232,231, or 17.9 percent of all fruit fly traps, were submitted to the Fruit Fly Identification Laboratory for further screening of suspect economic flies.

An estimated 2.3 billion sterile Mediterranean fruit flies were released at the rate of 125,000 per square mile over approximately 600 square miles. Approximately 713,840 or 0.03 percent of the total sterile flies released were screened at the fruit fly lab for verification of sterility. There were 190 dissections performed to confirm sterility of suspect Mediterranean fruit flies from the preventive release areas, and there were 201 instances where suspect target economic fruit flies were sent to the Fruit Fly Identification Laboratory for urgent identification.

Annual refresher training and certification classes for the recognition of fruit flies of economic importance were conducted throughout the state for field personnel and temporary duty assigned personnel from the USDA Fruit Fly Strike Team. More than 300 people participated in the training.

Nematology

During this fiscal year, the nematology section analyzed 14,630 samples. These samples contained more than 74,800 specimens of plant parasitic nematodes, which were identified to genus and/or species by division nematologists. This diagnostic work involved 21,467 morphological and molecular identifications. Nematological analyses for certification and regulatory programs

relative to citrus, ornamentals, and other Florida crops represented 93.8 percent of the total diagnostic work. The remaining 6.2 percent included analyses for survey of nematodes of regulatory significance, plant problems, and investigations.

Bromeliads are ornamental epiphytes that are grown and traded for their attractive foliage and flowers. These ornamental epiphytes produce roots that anchor the plant to branches and twigs of trees, but also uptake nutrients when bromeliads are in contact with or grown in soil and other media. Shipments of these ornamentals often do not meet the nematode certification requirements for export to national and international markets because of presence of regulatory nematodes. A nematode survey was conducted in bromeliad operations in Central and South Florida in order to verify the most common plant parasitic nematodes which infect bromeliads. The results of this survey indicated that bromeliads belonging to the genera *Guzmania*, *Neoregelia*, and *Vriesea* are infected by root-lesion, root-knot, and spiral nematodes. The spiral nematode *Helicotylenchus dihystra* was the most common nematode detected in the surveyed operations. The peanut root-knot nematode *Meloidogyne arenaria* was also found parasitizing *Neoregelia* roots in Central Florida. *Pratylenchus brachyurus* and other lesion nematodes, still in process of identification, were detected mainly in South Florida. All these nematodes feed inside the root tissues and are transported long distance with infected plants. The implementation of strict sanitation practices is the best approach to prevent the spread of these nematode pests in the nurseries.

A survey of biological control agents infecting root-lesion nematodes in North Florida was initiated in this fiscal year. Specimens of *Pratylenchus hexincisus* collected from roots of Bermuda grass in Alachua County were found infected by the bacterium *Pasteuria* sp. The infection of this beneficial bacterium was not widespread in the surveyed fields. This survey is still in progress and is conducted in cooperation with the Department of Entomology and Nematology at the University of Florida in Gainesville.

In April 2007, laurel oak (*Quercus laurifolia*) plants were found infected with root-knot nematodes in a home garden in Alachua County. Infected roots were severely galled and partially rotted. Nematode-infected laurel

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oak secondary and tertiary roots were distorted by distinct round galls with attached egg masses protruding from their surface. Species identification was performed and was consistent with those previously reported for *M. partityla*. This appears to be the first report of *M. partityla* occurring on *Q. laurifolia*. Also, this is the first report of a plant host outside the family Juglandaceae for this root-knot nematode species. Studies are in progress to determine the ability of the oak population of this nematode to infect and reproduce on other species of oaks and on pecan.

Since 2007, division nematologists have been conducting a survey of potato cyst nematodes (PCN) in potato-growing areas in Florida. Colleagues from USDA-APHIS and the Florida Cooperative Pest Survey participate in this survey, which was prompted by the find of the pale potato cyst nematode (*Globodera pallida*) in Idaho in April 2006. In 2007 and 2008, almost 500 samples were collected in South, Central, and North Florida. In 2009 the PCN survey continued in North Florida and involved 147 samples from Flagler, Putnam, and Saint Johns counties. The results of the nematological analysis of these additional samples have not provided any evidence of occurrence of the regulated pale and golden nematodes in the potato-production areas in Florida. These findings have important regulatory significance and provide support to the exemption status of Florida agricultural industries from any ban on the export of potato tubers and other crops to countries regulating the PCN.

The reproduction and virulence of four Florida isolates of *Meloidogyne mayaguensis* to the root-knot nematode resistant (Benning, Boggs, Bragg, Forrest, Haskell, Lee 74 and G-93-9009) and susceptible (Bossier, GoSoy 17, Pickett) soybean genotypes were evaluated in a growth room. Two levels of each nematode isolate (low = 2,500 J2 or eggs/ plant; high = and 5,000 eggs or J2/ plant) were used. None of the cultivars was immune to the isolates of *M. mayaguensis*. Differences in reproduction and virulence were detected among all the nematode isolates at both inoculum levels. All four isolates overcame the root-knot nematode resistance genes, including the *Mir1* gene. The results of this work showed for the first time that gene(s) that confer resistance to at least one of the major root-knot nematode species in soybean may also confer resistance to some isolate of *M. mayaguensis*.

This study, published in the journal *Nematropica*, was conducted in collaboration with the Department of Entomology and Nematology at the University of Florida.

Studies have been conducted as an attempt to find molecular markers to identify *Meloidogyne* spp. from Florida. A study using Random Amplified Polymorphic DNA (RAPD) was carried out using 26 random 10-mer primers (OPA01 to OPA20; M20, E07, J20, K07, K14, K19) to evaluate their usefulness to differentiate 49 isolates of *Meloidogyne* spp. (*M. arenaria*, *M. floridensis*, *M. incognita*, *M. javanica*, *M. mayaguensis*, and four unidentified *Meloidogyne* spp. [M sp. 2-5]) collected from Florida. Numerous polymorphisms were found between the isolates of each unidentified *Meloidogyne* sp.; however, the isolates of M. sp. 3 were grouped more closely to isolates of *M. javanica*. This study was conducted in collaboration with the Department of Entomology and Nematology at the University of Florida.

Janete Brito was invited by the European and Mediterranean Crop Protection Organization (EPPO) to participate in an expert working group to perform a pest risk analysis (PRA) for *Meloidogyne mayaguensis*. The meeting was held May 25-28, 2009, at the EPPO headquarters in Paris.

Nematologists from the Department assisted their colleagues from the Italian Research Council in Bari, Italy, in the preparation of a report on the exotic and non-exotic nematode plant pests that pose a potential threat to the agriculture and environment of Italy. This report, which was intended for Italian regulatory agencies and local agricultural specialists, was published in the Italian Journal REDIA.

During the 2009 spring semester, Department nematologists organized graduate-level nematology seminars for the Department of Entomology and Nematology at the University of Florida in Gainesville and presented two seminars.

Advanced Diagnostics Laboratory

The Advanced Diagnostics Laboratory (ADL) processed 3,306 total samples during 2008-2009, including 350 regulatory samples. Various molecular, biochemical, and other analytical techniques were used. Regulatory sample processing included:

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Detection and identification:

- Identification of plant pathogenic bacteria including those responsible for citrus greening (HLB), zebra chip in potato, cucurbit yellow vine disease, citrus black spot, and phytoplasmas implicated in Texas phoenix palm decline (TPPD) in cabbage palm (*Sabal palmetto*) and Phoenix palm.
- Identification of plant viruses including poty-, tospo-, gemini-, and other virus species.
- Taxonomic diagnosis of *Phytophthora ramorum*, the pathogen responsible for sudden oak death (SOD), as well as other *Phytophthora* species.
- Molecular taxonomic determination of pea leafminer larvae.
- Testing for soil formulation compliance as mandated by the Imported Fire Ant Certification Program.

Citrus Health Response Program-related Activities:

- Continued the development of a general molecular screening approach for proteobacteria in citrus as part of a strategy to detect pathogens *in planta*. This includes the development of fluorescent oligonucleotide probes to isolate and identify Liberibacter, *Xylella fastidiosa*, the causal pathogen of citrus variegated chlorosis, and other pathogens.
- Carried out screening and diagnosis for citrus canker, black spot, and phytoplasmas.

New and noteworthy records include:

- The confirmation of the fungus *Phytophthora ramorum*, the causal pathogen for sudden oak death, also known as ramorum blight, on leaf baits from water by DNA sequence analysis.
- New county records confirmed for Texas phoenix palm decline for Duval, Lake, and Hardee counties, and the first confirmation of this phytoplasma in *Sabal palmetto* for Sarasota County.
- Submitted a Plant Disease Note for the first record of

Sida Golden Mosaic Virus on *Phaseolus vulgaris*. The DNA sequence was submitted to the international gene bank.

New molecular diagnostics developed and/or implemented include those for:

- Citrus black spot pathogen *Guignardia citricarpa*.
- Cucurbit yellow vine disease pathogen, *Serratia marcescens*.
- *Candidatus* Liberibacter sp. associated with zebra chip in potato.
- Agromyzid pea leafminers *Liriomyza huidobrensis* and *L. langei*.

Plant Pathology

The Plant Pathology Section processed over 3,000 more samples this year compared to last year (11,142 samples this fiscal year compared to 8,128 samples in 2007-08). Of that number, 1,933 were samples submitted for diagnosis of citrus canker, and 6,412 were submitted for diagnosis of citrus greening/huanglongbing. Over the last several years, sample numbers for routine pathology problems from division plant inspectors have remained at historically low levels. This is due to the number of special projects that take field personnel away from routine nursery inspection duties, and because many routine plant problems can now be identified in the field and brought to the attention of growers without the need for formal sampling. Even so, the number of routine pathology samples increased about 10 percent over last year. Some highlights of the past fiscal year follow:

Proposed Rule Change on Shipment of Fresh Citrus Fruit from Florida

The Plant Pathology Section is continuing to cooperate on a USDA-Technical Assistance for Specialty Crops (TASC)-funded project along with UF-IFAS and USDA-ARS to assist the Florida fresh citrus fruit industry in marketing fruit now that citrus canker disease is endemic in the state. The discovery that citrus fruit with canker blemishes is not a good source of inoculum to initiate disease has been incorporated into a pivotal publication in the journal Crop Protection entitled "The epidemio-

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logical significance of post-packinghouse survival of *Xanthomonas citri* subsp. *citri* for dissemination of Asiatic citrus canker via infected fruit." This publication, along with another in Crop Protection titled "Survival and dispersal of *Xanthomonas citri* pv. *citri* from infected Satsuma mandarin fruit," provided the basis for a proposed federal rule to ease the restrictions on shipping fresh citrus from canker-endemic production areas. (Federal Register 74(124)31201-31209, June 30, 2009). The comment period on the new rule will close August 31, 2009.

New Fungal Pathogen of Chrysanthemum Foliage

A potentially important fungal pathogen of chrysanthemum was brought to the DPI Plant Pathology Section's attention by a large mum producer in Florida last year. After identifying the genus of the fungus, work continues to accurately identify this species of *Plectosporium* that causes blight symptoms on the mum foliage. Mary Palm and John McKemy (USDA-APHIS-PPQ, Beltsville, Maryland), mycologists knowledgeable about this genus, continue efforts to identify this *Plectosporium* to species. It is likely to be new and undescribed. Pathogenicity tests at DPI on *Chrysanthemum x morifolium* were positive.

Student Internships in the Plant Pathology Section

Three University of Florida students – one undergraduate from horticultural sciences and two plant medicine doctoral candidates – have participated in internships over the last year. Students learn basic and advanced diagnostic techniques for biotic and abiotic pathogens, and engage in small research projects involving new diseases or host plants. Projects investigated this round were the new foliar and leaf pathogen of *Curcuma*, *Plectosporium delsorboi*, the new rust disease of caused by the daylily rust pathogen *Puccinia hemerocallidis* originally thought to be *Uredo dianellae* (see separate paragraph below), and a survey of the cultural requirements for growing the newly discovered member of the Araucariaceae, *Wollemia nobilis*.

Phytophthora Ramorum Survey Activity

For the first time, *Phytophthora ramorum* was detected in a stream bait at a very low level about one-third of a mile down slope from the edge of a wholesale nursery in Havana, in Gadsden County, where infected plants had been detected in three of the past five years. The sample

was obtained in late October 2008. Follow-up baiting of that same watershed in February 2009 failed to recover the pathogen a second time. This area will be monitored for several years to see if the pathogen establishes in the area. The watershed is in a remote wooded area that is subject to widely fluctuating water levels. Some years it is completely dried up and other years it experiences considerable flooding. It ultimately drains into the Ochlocknee River and Lake Talquin. This is the third year of stream baiting for the presence of *Phytophthora ramorum* both within and outside the confines of a retail garden center in Tallahassee and its wholesale operation in the nearby community of Havana. This project is conducted in conjunction with the U.S. Forest Service to track the possible spread of the sudden oak death/ramorum blight pathogen in the nursery trade.

Gladiolus Rust

For the second year in a row, gladiolus rust disease (*Uromyces transversalis*) was absent in the Manatee County area. Both commercial and private residential gladiolus in the area made it through the season without infection. Additionally, the commercial glad production area in remote Hendry County also managed to stay rust free this season for the first time since the disease first appeared in the United States in the spring of 2006. Growers have faithfully and successfully followed recommendations from the joint state-federal regulatory working group to impose a host-free period to let the pathogen die out in the area, scout their crops with the aid of regulatory personnel, and apply fungicides in a judicious manner.



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Commercial sales of cut flowers have been maintained throughout this eradication program by conducting careful inspections, foliage stripping, and fungicide dips at the packinghouse to make sure infected plants stay out of commerce. This is a remarkable example of a successful eradication program against a rust pathogen. Long-distance transport of rust inoculum from South America, Mexico, California, or the African Continent might one day again infect the Florida crop, but it appears the local industry is well on the way to eradication for now. The pathogen has gotten a firm foothold in residential (but not commercial) gladiolus in parts of California, making it unlikely that eradication would be possible there.

Update on the New Rust Disease on *Dianella Tasmanica*

The rust disease on *Dianella tasmanica* has apparently established in several locations in South and Central Florida, but does not appear to cause much damage to the host. Original suspicions that this might be a host range expansion of the daylily rust pathogen were eventually proven accurate by molecular testing, but not before a preliminary determination had been passed down from the USDA Mycology lab in Beltsville that the pathogen was *Uredo dianellae*. In spite of the identification as daylily rust, efforts at DPI and UF to infect *Dianella* with rust from daylily or daylily with rust from *Dianella* have yet to be successful. Host specialization may be occurring. Weed scientists have recently expressed some concern over the invasiveness of this plant genus in natural ecosystems in South Florida.

Anticipated Movement of the Laurel Wilt Pathogen Into Avocado

The laurel wilt pathogen, now known as *Raffaelea lauricola*, and its vector, the redbay ambrosia beetle (*Xyleborus glabratus*), were first discovered in the Port Wentworth area on the Atlantic coast of Georgia just south of the South Carolina line in May 2002. Since that time, the pair has moved north, west, and especially south, spreading to date into 21 counties in Florida. The duo has killed untold numbers of redbay (*Persea borbonia*), along with lesser numbers of several other members of the Lauraceae. Avocado (*Persea Americana*) is a known host for the pair, and incursion into the avocado industry of Miami-Dade County is anticipated at any time. Avocado trees outside the commercial production area

have already fallen victim to the disease, one in Jacksonville in September 2007, one in Malabar, in Brevard County, in October 2008, and one more in Merritt Island, also in Brevard County, in early 2009. Laurel wilt on redbay spanned the Florida peninsula for the first time in 2009, showing up on redbay in Citrus County on the Gulf Coast in late May.

Mysterious Dieback of *Spartina Alterniflora* in Salt Marshes of the Southeast

For several years, sudden dieback of marsh grass (*Spartina alterniflora*) has been observed in various locations in the Atlantic and Gulf coasts of the southeastern United States during the spring and summer. Florida has seen several especially noteworthy episodes in the Big Bend area off the coast of Gulf County. A cooperative effort with the Florida Department of Environmental Protection and the Florida Fish and Wildlife Research Institute to determine the cause has been largely unsuccessful to date, though some Dipteran larval borers and a few potential pathogenic fungi have been retrieved sporadically from samples. The syndrome abates by mid-summer, so further diagnostic efforts must await the next season. Other labs around the Southeast are facing similar frustration trying to determine possible causes.

Capability for In-house Molecular Diagnosis of Citrus Black Spot Disease (*Guignardia citricarpa*)

Citrus black spot is a fungal disease of fruit that is strictly regulated by the European Union and other citrus-production regions that remain free of the disease. For many years almost every fresh fruit export shipping season has had one or more cargo ship load of fruit held up in a European port for a presumptive diagnosis of citrus black spot. This is because many innocuous lesions on fruit can mimic the genuine black spot disease to a degree. Conventional diagnostics of the disease are so slow that a shipment faces serious degradation while waiting for confirmation or release. Recent improvements in PCR diagnostics supplied by Dr. Natalia Peres (UF, Gulf Coast Research and Education Center) now make it possible to check for the pathogen in pre-harvest surveys, or on fruit in commerce that displays early symptoms that are suggestive of the disease. The DPI citrus diagnostic team is adapting techniques for the use of the new diagnostics to assist with survey samples or samples of exported Florida fruit being held in port.

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Davis Productivity Award to the Citrus Greening Diagnostic Group

The citrus greening diagnostic group made up of Xiaolan Sun, Debra Jones, Tim Schubert, Wayne Dixon, Shannon Hickey, Koo-Whang Chung, Miriam Agdamag, Huiwen Chen, Lisa Jones, Bruce Sutton, and Susan Halbert were honored with a Notable Team/Work Unit/Partnership Cash Award from the Davis Productivity organization in June. Unprecedented sample loads for greening diagnosis required some streamlining of the process, so team members learned how to triage samples that required more expensive and time-consuming molecular diagnostics, and trained themselves to use visual assessments backed up by routine molecular confirmations to process and diagnose other samples. By careful training, diagnostic accuracy remained at peak levels, and large numbers of samples were processed accurately and speedily for the citrus industry.

Progress with the Plant Pathogen/Problem Specimen Tracking (PPST) Database

The Plant Pathology Specimen Tracking (PPST) database continues to serve the section well and with use staff is growing familiar with database functions and capacity. The database modernizes the old SMART® database that had served the section well since 1984. The new system provides a much richer synopsis of each specimen processed, including records of all diagnostic tests with comments, pictures from the field and in the lab, and literature references used in the diagnostic process. The system also emails the completed diagnosis to all interested parties. Retrieval of records is improving as division data processing staff makes adjustments. The database compilation of disease records constitutes an online, searchable, continuously updated pathogen and host index for Florida, replacing the hard copy "Diseases and Disorders of Plants in Florida." The overall format of PPST will serve as the template for tracking and storage of entomology, botany, and nematology determinations in the future.

Additional New Host Records of Interest

Cercospora ipomoeae was a new host record on *Ipomoea hederifolia*, an ornamental vine and wildflower. This sample came from the landscape on the grounds of the Doyle Conner Building in Gainesville.

Crown gall (*Agrobacterium tumefaciens*) was reported for the first time on *Brugmansia x candida*, angel's trumpet.

A leaf smut/yellow leaf spot disease caused by *Kordyana tradescantiae* was reported for the first time in the Western Hemisphere on the wildflower *Tradescantia ohiensis*. Both nursery-cultivated and wild plants in the natural environment in North Florida have been found with the infection.

The Texas Phoenix palm decline (TPPD) strain of the palm lethal yellowing phytoplasma pathogen was found infecting the state tree, *Sabal palmetto*, in DeSoto County in August. This marks a significant range expansion for this strain. Infected sabal palms have been discovered now in 11 Florida counties, mostly in the Tampa Bay area. The disease presents formidable phytosanitary challenges for regulating commercial palm traffic. A survey for this disease continues. The vector for infecting *Sabal palmetto* remains unknown. Several phloem-feeding insects are good candidates, but none are proven vectors at this time.

A leaf necrosis on *Ctenanthe oppenheimiana* (never-never plant) caused by *Exserohilum rostratum* was a new host record. The sample submitted in October 2008 was from an orchid nursery in Clearwater.

A new leaf spot disease on *Christia obcordata* (a legume known as 'butterfly leaf') from Immokalee in October 2008 was caused by an undetermined *Bipolaris* spp.

Rhodomyrtus tomentosa (downy myrtle) from Apopka was the latest new victim of the rust pathogen *Puccinia psidii*, which has been increasing in intensity on many members of the Myrtaceae in recent years.

A bacterial leaf and twig blight on *Gymnanthes lucida* (oysterwood) from a nursery in Homestead was attributed for the first time to a *Xanthomonas* sp.

Phytophthora cinnamomi was detected for the first time on the host *Kalmia latifolia* (mountain laurel), causing a root rot. The sample came in from a Tallahassee nursery in November 2008.

A sample of Japanese plum-yew (*Cephalotaxus harringtonia*) was submitted in November 2008 from a Gainesville nursery with a *Pythium* root rot, a first report on this host.

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An ornamental *Tillandsia* sp. with rotten leaf bases was found to be infected with *Nigrospora oryzae*, plus a *Colletotrichum* sp. The *Nigrospora* was a first on this host. The sample was submitted in December 2008 from Clermont.

A *Phytophthora* root rot was detected for the first time on *Erysimum chieri* (Citrona yellow treacle mustard). The species of *Phytophthora* on the December 2008 sample from a Gainesville nursery could not be determined.

Tomato spotted wilt virus (TSWV) was detected in Gainesville in September 2008 for the first time on the perennial bedding plant and wildflower *Stokesia laevis* (Stokes' aster). This virus is transmitted by thrips.

The first record of *Rhizoctonia solani* root rot of bay-cedar (*Suriana maritima*) was submitted to the clinic in January 2009 from Lake Worth.

A root rot of Rose-of-Sharon (*Hibiscus syriacus*) caused by the black root rot pathogen *Thielaviopsis basicola* was diagnosed from Bell in January 2009.

Agave angustifolia (century plant) was diagnosed with the leaf anthracnose pathogen *Colletotrichum agaves* for the first time in March 2009 on a sample from Inverness.



Problems with chlorotic mosaic patterns and distortion on the foliage of prayer plant (*Maranta leuconeura*) cuttings entering Florida from Central America was attributed to sugarcane mosaic virus, a new host record.

Gray mold disease caused by *Botrytis cineraria* was diagnosed for the first time on Bethlehem lungwort (*Pulmonaria saccharata*), a perennial bedding plant, on a sample submitted to the clinic from a Eustis nursery in March 2009.

A sample of *Ilex krugiana* (tawnyberry holly) from Coral Gables was diagnosed with a *Pseudocercospora* sp. leaf spot in March 2009.

A wilted manuka or New Zealand Tea tree (*Leptospermum scoparium*) in Gainesville yielded the first diagnosis of an *Acremonium* sp. in May 2009.

An unusual black fleck disorder on the foliage of *Hydrangea macrophylla* was determined to be the result of explosive ascospore discharge from *Sordaria* sp. perithecia in the potting media. The media contained manure and wood chips which served as substrate for the saprophytic fungus. The aggregated pattern of ascospore deposition was the tip-off that led to the identification. Flecks such as these are often attributed to unknown insects by plant health inspectors. This can result in the phytosanitary rejection of a shipment of plants.

A new *Mycovellosiella* leaf spot was diagnosed on *Plumeria frangipani* foliage on a sample from Naples in June 2009.

Citrus Germplasm Introduction Program

The Citrus Germplasm Introduction Program (CGIP) in Gainesville initiates the quarantine process for importation of new citrus varieties into Florida. Individuals who are interested in importing new varieties will submit their requests to the Division Director and, following approvals by the director and the Citrus Budwood Technical Advisory Committee, CGIP will request budwood for the new variety under a USDA-APHIS departmental permit. Foreign budwood arrives in Beltsville, Maryland, where it is examined by USDA inspectors and if found apparently clean, is repackaged and shipped to CGIP. Upon arrival, the budwood is surface-sterilized, grafted, and prepared for therapy using shoot-tip grafting (STG) and/or thermotherapy. Plants derived from therapy procedures are then pathogen-tested by laboratory diagnostics and bio-indexing. Once testing is complete, and no pathogen has been detected, commercial varieties are transferred to the Bureau of Citrus Budwood Registration greenhouses in Chiefland, where they are horticulturally evaluated and released as certified budwood. Research and breeding selections that complete introduction procedures are released to the original requestor. Therapy and treatments will vary

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depending on the source of budwood and the risk of its infection. High-risk germplasm is generally infected with one or more pathogens and requires both STG and heat therapies, full indexing, and testing, which is an estimated 24-to-35-month process. Low-risk germplasm is a candidate for expedited-type protocols that require only a single therapy, and reduction of indexing and testing that may be completed within 12 to 24 months. The "Passport" exchange of budwood between CGIP and California citrus germplasm programs is based upon core requirements set by NAPPO (North American Plant Protection Organization). Based on records supplied by the provider, a recipient program may choose to employ additional assays or therapy on the new variety prior to releasing it as certified budwood. CGIP currently employs three full-time personnel: one manager (Ms. Lisa Williams), one laboratory-scientist/shoot-tip grafter (Mr. Mark Gooch), and one greenhouse tech/grafter (Mr. Bryan McElroy).

Ten new citrus selections entered the introduction program. They originated from Texas and Australia. Eight selections from Texas A&M University represented three varieties including: Hamlin sweet orange, Rio Red, and Ruby Red grapefruits. All were genetically modified and carry the SoD2 gene to express the spinach defensin protein, capable of causing resistant reactions to citrus canker and greening. Two tetraploid pummelos were provided for research and breeding by the Department of Primary Industries and Fisheries, Queensland, Australia.

CITRUS GERMPLASM INTRODUCTION PROGRAM - VARIETIES

New Varieties Released:

4N Clementine
Lemon UF 1-7-45
Lemon UF 1-8-57
Lemon UF 1-9-42
Lemon UF 1-9-57
Lemon UF 1-11-46
Southern Farms 8-2-6 Valencia 01-NS3
Glen Red nucellar
Podagra rough lemon

"Vinegrowth" seedling

Tango mandarin

Lemon UF 1-15-30

Lemon UF 1-15-43

Lemon UF 2-1-26

Lemon UF 2-2-13

Lemon UF 2-3-29

Lemon UF 1-15-23

Lemon UF 2-6-23

Foster grapefruit

Leug shaddock

Queen orange

Westcott pummelo

FLORIDA VARIETIES FOR CLEAN-UP:

Grapefruit:

Charonja

"Good" pummelo

Miscellaneous:

Ira Ebersole ugli

Leopard Spot seedling

Sunfruit

Orange:

Cadenera 441-33-27

Cuban White

Dr. King Valencia

King seedling

SF 8-1-1 02 Val 01-NL 15

Lemon:

RL 8166

40 X Lemon-oil selections

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NEW IMPORTED VARIETIES IN PROGRESS:

Grapefruit:

Dalandan
Rio Red-Tx-5
Ruby Red-Tx-420
Ruby Red-Tx-824
Ruby Red-Tx-867
Ruby Red-Tx-877
Ruby Red-Tx-882
Ruby Red-Tx-890

Mandarin:

C5282
Eloise (2 selections)
Mandalate
Mandared
Moria
Winola

Sweet orange:

Hamlin-Tx-311
Natal Valencia

Tetraploids:

Hudson grapefruit
Mucott
Minneola
Pomelo A
Pomelo B
Pomelo B

All field-grown citrus in Florida is at risk of infection with serious diseases endemic to the state including: citrus stem-pitting tristeza, canker, and citrus greening. Over the past few years citrus breeding programs with plants in the field sought to rescue many of their most valuable selections by providing budwood of each selection to CGIP for therapy and indexing. Once cleaned, these selections will be returned to their original institution for protection in a repository greenhouse.

CGIP released 22 citrus varieties from quarantine following completion of therapy and indexing and no

pathogens being detected. Twenty of these selections originated from the University of Florida (UF) breeding program, either infected with citrus tristeza virus or exposed to citrus canker or greening. Releases included: 12 lemon selections bred for oil production, and an assortment of varieties from a Fort Pierce citrus collection. The remaining two selections originated from California: Tetraploid Clementine will be used for breeding and production of seedless triploids, and Tango Mandarin is a proprietary seedless Murcott requested by the New Varieties Development and Management Corporation.

Planning continues for construction of the Citrus Repository at Boston Farm, where CGIP will relocate to a 3,900-square-foot office/lab and an 18,000-square-foot greenhouse facility built in conjunction with CBR backup budwood collection, located in Alachua.

Dr. Luis Navarro, Instituto Valenciano de Investigaciones Agrarias, Spain, visited CGIP in August. Dr. Navarro is world-renown for using shoot-tip grafting to remove citrus pathogens. He shared an informative presentation regarding citrus quarantine programs and his expert advice on successful citrus therapy and indexing.

CGIP hosted an October 2008 visit by Mr. Marco Gonzalez, Agricultural Specialist with the USDA-APHIS-IS and U.S. Embassy, who led a tour group for Organismo Internacional Regional de Sanidad Agropecuaria with representatives from Belize, Costa Rica, Dominican Republic, El Salvador, Honduras, Mexico, and Panama. Participants were interested in viewing certification programs in operation.

Botany

For fiscal year 2008-2009, the Botany Section processed 9,183 samples. In addition, 347 specimens were added to the DPI herbarium (PIHG), bringing the total size of the collection to 10,484. The number of vials in the seed collection remains at 1,469.

The Botany Section is participating in an ongoing project to provide forest health training material to the Division of Forestry, and at the same time adding specimens to the herbarium. The section is collecting samples of FLEPPC-listed invasive exotic plants and preparing herbarium specimens, two for each species for the Division of Forestry, and one for PIHG. So far, the section

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Dr. Richard Weaver completed work on a revision of the text of the Division of Forestry handbook, "Forest Trees of Florida." Dr. Anderson assisted by constructing an identification key.

Dr. Patti Anderson is participating in developing the Lucid Palm Resource, a project in cooperation with the USDA. The project, when completed, will provide interactive keys to the identification of the palms cultivated in the United States and the Caribbean islands, and to their pests. Dr. Anderson is working on the palm identification key and has greatly expanded the palm section of DPI's herbarium. She completed two week-long field trips to Montgomery Botanical Center, Fairchild Tropical Botanic Garden, and other parts of southern Florida in December 2008 and April 2009. She has attended USDA workshops in Fort Lauderdale and Gainesville to coordinate the development of the key with entomologists on the project.

Dr. Weaver is working on an online fifth edition of "Notes" on Florida's endangered and threatened plants. This was last revised in 2003, and 19 species have been added to the endangered list since then. There are also numerous new county records, references, and illustrations to be listed.

Dr. Weaver has also begun a weed-identification project titled "Weed of the Month," in which information about pest plants is provided via the DPI intranet for use by plant inspectors and other interested staff.

Dr. Anderson is the managing editor of "TRI-OLOGY," a bimonthly summary of interesting or significant records of plants, arthropods, and diseases identified and processed during the period. Working with Dr. Weaver and staff from other sections, she has coordinated a revision of the report with improved use of the Internet to enhance access to these identifications.

Cooperative Agricultural Pest Survey

The Florida Cooperative Agricultural Pest Survey (CAPS) program is comprised of a state survey coordinator, three pest survey specialists, a geographic information specialist, a public information specialist, a molecular diagnostician and a laboratory technician. These individuals, together with USDA pest survey specialists and the entomology domestic identifier, comprise the larg-

est CAPS program in the nation. The CAPS team was involved in many key surveys and initiatives throughout the state during fiscal year 2008-2009.

Florida's agricultural community and citizens were made more aware of exotic pests through several activities including the CAPS web pages, a traveling tabletop exhibit display, public outreach door hangers, a web-based emerald ash borer video public service announcement, flyers, online survey reports, computer desktop calendars, pest identification training sessions, scientific conferences, public meetings and presentations, and newspaper articles.

Potato Cyst Nematode Survey

On April 19, 2006, the U.S. Department of Agriculture (USDA) and the Idaho State Department of Agriculture (ISDA) announced, that the pale potato cyst nematode (*Globodera pallida* Stone) had been detected from a soil sample collected at an ISDA potato grading facility. This sample was collected in an ongoing Cooperative Agricultural Pest Survey (CAPS) to detect exotic pest nematodes. This was the first detection of this very important nematode pest of potato in the United States.



Globodera pallida and the closely related golden nematode (*G. rostochiensis* Woll.) form a pest complex in which each species is commonly referred to as a potato cyst nematode (PCN). These potato cyst nematodes are of worldwide regulatory concern. PCN are obligate parasites of a number of solanaceous plants, including potato, tomato, and eggplant (with potato being the most important). They can cause potato yield losses

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of 20 to 70 percent and are easily transferred by passive means, especially in soil adhering to potato tubers. Female PCN can produce hundreds of eggs, which after the females' death are retained in their hardened bodies, or cysts, which can persist in soils for 20 to 30 years in absence of a suitable solanaceous host. Their presence can spur quarantine action and result in loss of markets.

A CAPS potato cyst nematode survey initiative began in Florida in April 2007. According to the national protocol, 10 percent of commercial potato fields in each county were to be randomly sampled. At this time, the CAPS team has surveyed and sampled 16,853 acres in 11 Florida counties:

Charlotte	100
Collier	1,947
Flagler	665
Lee	1,416
Manatee	1,850
Miami-Dade	60
Osceola	1,300
Okeechobee	1,200
Putnam	1,777
St. Johns	4,738
Suwannee	1,800

This represents over 60 percent of the state's commercial potato production acreage. A total of 1,262 soil samples were submitted from the survey to DPI nematologists for processing and identification. No PCN has been found in any samples processed at the time of this report. In addition to a thorough screening for PCN, all plant-parasitic nematodes found in each sample were identified. From the 1,262 soil samples currently processed, 197,444 plant-parasitic nematodes in two orders, eight families, and 15 genera have been recorded. No nematodes of regulatory concern have been found. A report of the results of the nematologists' findings for each site/field was provided to the producer.

Laurel Wilt/Red bay Ambrosia Beetle Survey

The red bay ambrosia beetle (*Xyleborus glabratus* Eichoff) and its symbiotic fungus, *Raffaelea lauricola* Harrington

and Fraedrich, were first detected in Florida in 2005. Since then, the CAPS team has worked with the Division of Forestry to survey for and track the spread of this beetle/pathogen complex throughout the state.

Laurel wilt has an expanding host range that includes avocado (*Persea americana* var *americana* Mill.), red bay (*Persea borbonia* (L.) Spreng.), swamp bay (*Persea palustris* (Raf.) Sarg.), silk bay (*Persea humilis* Nash), sassafras (*Sassafras albidum* (Nutt.) Nees), pondspice (*Litsea aestivalis* (L.) Fernald), pondberry (*Lindera melissifolia* (Walter) Blume), and camphor tree (*Cinnamomum camphora* (L.) J. Presl.). This fungus grows throughout the sapwood of a tree, preventing the flow of water and nutrients within the plant, ultimately killing the tree a few weeks after inoculation.

While the loss of red bay from the Florida landscape would be of ecological significance, the loss of avocado would be of considerable economic and agricultural significance. The Florida avocado industry consists of about 7,000 fruit-bearing acres (personal communication, Alan Flinn, Avocado Administrative Committee, May 2009), more than 99 percent of which are located in southern Miami-Dade County. Avocados are a \$13 million industry in Florida. The infestation by the beetle and infection by its symbiotic fungus could result in a permanent reduction in the long-term profitability of the local avocado industry. For this reason, the CAPS survey efforts were increased in scope and intensity as the disease moved ever closer to the major avocado production area in fiscal year 2008-2009. Several major surveys took place as well as a continued trapping initiative and a new sentinel site survey program. The CAPS team discovered laurel wilt and its vector in St. Lucie and Martin counties, placing the disease about 100 miles from the avocado production area. Palm Beach, Broward, and Miami-Dade counties were intensely surveyed, and 18 redbay ambrosia beetle traps were placed strategically throughout this region. DPI and USDA Fruit Fly Detection Program (FFD) personnel in Palm Beach, Broward, and Miami-Dade counties were trained on how to set up sentinel survey trees along their trap lines. This additional program will include one sentinel site within an FFD trapper's territory for regular monitoring in conjunction with their regular fruit fly trapping duties. Thus far, no evidence of laurel wilt or the beetle *Xyleborus glabratus* has been observed within the Miami-Dade survey area.

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Small Grains Survey

In Florida, there are three small grain crops grown in quantity: wheat, oats, and rye. Wheat and oats are more commonly grown followed by small acreage of rye. Most small grains in Florida are grown in the northwest counties of the state located near the Georgia state line. Of these counties, the highest producing are Jackson, Escambia, and Calhoun. The Florida CAPS program chose to survey for four pests with likely pathways into the state, including the wheat bug (*Nysius huttoni* White), the rice cutworm, *Spodoptera litura* (F.), and the old world bollworm, *Helicoverpa armigera* (Hübner), all of which pose a serious threat to wheat, oat, and rye production in Florida. The rust disease caused by *Puccinia graminis tritici* race Ug99 will also be surveyed for in concurrence with the other pests.

Florida's 2008 wheat acreage was almost double that of 2007, going from 13,000 to 25,000 acres. The value of the 2007 wheat crop was \$2,206,000. Although Florida's acreage is relatively small compared to other states to the north, Florida's wheat can serve as a springboard for exotic wheat pests to move northward throughout the wheat production areas, which for 2008 is estimated to be approximately 63.5 million acres.

The Florida CAPS team surveyed wheat, rye, and oats in Calhoun, Columbia, Escambia, and Jackson counties as part of a national small grains survey. Pheromone-baited bucket traps and UV-light traps were used as well as more traditional collecting techniques such as beating and sweeping and visually surveying a field. Over 2,300 insects were screened and thousands of acres were surveyed. While this survey did result in 35 new county records, no pest of regulatory concern was collected.

Light Brown Apple Moth Survey

In March 2007 a light brown apple moth (*Epiphyas postvittana*) was collected in Berkeley, California. Shortly after this find, the pest was trapped in several other locations in the area. This led to an Incident Command System (ICS) program and an effort by California and USDA to eradicate this pest from the U.S. mainland. Florida receives much of its nursery stock from California, so a very real pathway for the introduction of this pest into Florida exists.

This prompted the Florida CAPS program to identify and locate nurseries in Florida that receive nursery stock from light brown apple moth (LBAM)-positive counties in California. When a high-risk nursery was identified, Jackson traps baited with an LBAM pheromone lure were placed either within or in the environs of the nursery. At the time of this report, 122 LBAM traps had been placed in high-risk nurseries, cut flower distribution centers, and produce distribution centers. Another 28 traps will be added in fiscal year 2009-2010.

Solid Wood Packing Material Survey

Florida's forest industry contributes \$16.6 billion to the state's economy annually and encompasses almost 16 million acres. Florida's forests are truly unique and are home to plants and animals found nowhere else in the world. Not only do the public forests of Florida provide habitat for its many endemic animal and plant species, but, with a relatively mild climate, state and national forests are a major draw for campers year round. Florida is a major trade hub and receives material by rail, sea, and air from all over the world. The state has 12 international airports and 14 deep-water maritime ports. Therefore, Florida is a high-risk state for the introduction and establishment of exotic wood-boring insects. Early detection of exotic wood-boring insects is critical to successful implementation of response actions. The importance of this type of survey is underscored by the discovery of the redbay ambrosia beetle after it had become established in North Florida and the expense of trapping and tracking this pest, the loss of the extremely ecologically important redbay tree, and the potential damage to avocado production in South Florida.

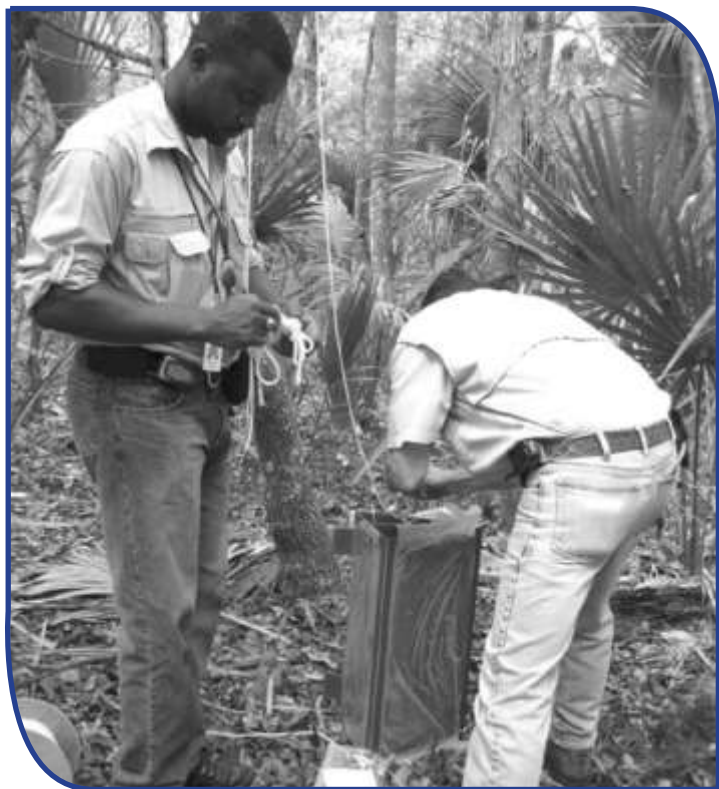
In recent years, several invasive species that threaten trees and other natural resources have been introduced into the United States via solid-wood packing materials (SWPM). Florida's ideal environmental conditions and extensive international ports of entry combine to make this state an incredibly high-risk area for the introduction of pests in SWPM. This threat prompted the Florida CAPS program to begin setting traps for species of concern associated with SWPM within or very near Florida's major international maritime ports. At the time this report was written, traps had been set at all major seaports in Florida. A total of 29 traps have been set statewide. This initiative is planned to continue for an unspecified length of time.

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Emerald Ash Borer Survey

In June 2002 *Agrilus planipennis* Fairmaire (emerald ash borer) was identified as the causal agent of ash decline in the Detroit metropolitan area. It is believed that this buprestid was brought in on solid wood packing materials transporting goods from the beetle's native East Asia. The discovery has led federal and state regulators to set quarantines, which have grown to track the beetle as new finds have been discovered in Michigan, Ontario, Ohio, Indiana, Illinois, Maryland, Virginia, West Virginia, Kentucky, Missouri, Pennsylvania, and Wisconsin.

In its larval stage, the emerald ash borer (EAB) feeds underneath the bark of an ash tree, developing galleries in the xylem and phloem of the tree, which eventually girdle it. This activity will usually lead to the mortality of the tree within three years. Symptoms of EAB infestation include leaf dieback, bark splitting, feeding galleries (often forming a serpentine path along the wood grain of an affected tree), epicormic shoots, and small D-shaped holes where an EAB has emerged from the trunk after completing the larval stage of its life cycle. In its native habitat, EAB is a relatively uncommon insect, but the lack of domestic predators and parasitoids have left some researchers with the expectation of total loss of ash tree cover.



In Florida, ash trees are an important part of the forest habitat as well as a useful commodity. The ash is valued in the landscaping industry for its aesthetic appeal and speedy growth. Its strength-to-weight ratio makes it a favorite among carpenters, who use it in the construction of baseball bats, furniture, flooring, musical instruments, and many other useful items. Although *Fraxinus* does not constitute the most dominant genus in the tree canopy, its fast-growing nature and high seed production make it an important colonizer of disturbed areas of the forest, and integral for the prevention of soil erosion in the riparian environments where, in Florida, most species grow. The disappearance of the four ash species that grow in Florida will have a direct affect on many other species. For one it would tax the already rare and endangered population of ghost orchids, *Dendrophylax lindenii*. Of the thousand or so of these rare and exotic epiphytes left, 95 percent are growing on Florida's native ash. Other species that depend on ash are the giant sphinx moth (*Cocytius antaeus*), great ash sphinx (*Sphinx chersis*), and the angel moth (*Olceclostera angelica*).

The lure used for this trapping initiative is either manuka oil or a manuka oil/phoebe oil mix which is placed in a purple prism trap before hanging. The number of traps per park ranges from two to four per park, depending on the size of the park. Traps are checked on a monthly basis and lures changed on a bimonthly basis. No EAB has been detected from these traps so far.

At this time 137 purple prism traps are active in 31 counties. These traps are located in state parks, national forests, and private campgrounds. This survey will continue in fiscal year 2009-2010, and the number of traps in the field will be increased to 150.

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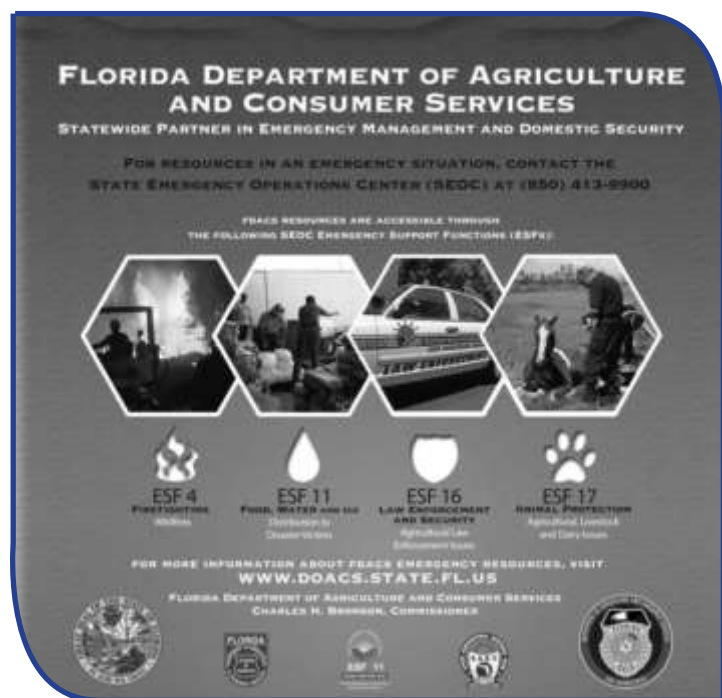
Domestic Security and Emergency Preparedness

The Department continues to work diligently to assure that Florida's agricultural resources are safe from terrorism and prepared for all types of disasters. The Office of Agricultural Emergency Preparedness, established shortly after the terrorist attacks of 2001, coordinates with all of the Department's divisions and offices to assure that its diverse programs are consistent, integrated, and equipped for success.

For the Office of Agricultural Emergency Preparedness, planning and training were top priorities for the 2008-2009 fiscal year. Florida continues to be a national leader in the amount of federal homeland security funding used for the protection of food and agricultural systems. The Office of Agricultural Emergency Preparedness assisted the Department in obtaining \$1.7 million in grant funding from the U.S. Department of Homeland Security and the Centers for Disease Control and Prevention for use during the 2008-2009 fiscal year.

Funding was used to support key Department initiatives including support for technological advances at Agricultural Interdiction Stations (Office of Agricultural Law Enforcement), training and support of All-Hazard Incident Management Teams (Division of Forestry), support for laboratory enhancements (Agricultural Environmental Services, Animal Industry, and Food Safety) and continued support of the State Agricultural Response Team (led by the Division of Animal Industry). Funding was also provided for development and implementation of statewide, multiagency food, agriculture, and animal health emergency response and mitigation plans (in partnership with the divisions of Food Safety and Animal Industry).

The office continued to offer U. S. Department of Homeland Security-certified courses developed by the Western Institute of Food Safety and Security (WIFSS). More than 1,000 participants were provided with in-depth agroterrorism preparedness training during 24 course offerings throughout Florida. Attendees included Department employees and many of the Department's homeland security partners from local, state, and federal agencies. Because of the high level of interest in these courses and the quality of the instruction, additional WIFSS agroterrorism courses will be offered throughout Florida in the coming months.



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Florida Agricultural Promotional Campaign

The Florida Agricultural Promotional Campaign (FAPC), often referred to as “Fresh from Florida,” is a promotional program designed to enhance the image and increase sales of Florida agriculture. The campaign helps both domestic and international consumers easily identify agricultural products grown and produced in the state. It also works to increase public awareness of the importance of Florida’s agricultural industry.

There are two levels of FAPC membership: paid and nonpaid. There is a \$50 annual fee for paying members. This category includes producers, packers, repackers, processors, brokers, shippers, co-ops, agriculture supporters, and industry associations/organizations. Non-paying members include retailers, food service, non-profits, wholesalers, and educational and governmental organizations.

Members receive a number of benefits including “Fresh from Florida” logos, the opportunity to participate in industry trade shows at a reduced cost, point-of-purchase materials to help promote their Florida agriculture commodity, and the chance to participate in the Logo Incentive Program. The purpose of the Logo Incentive Program is to provide members with the opportunity to offset a portion of their costs on packaging, cartons, labels, and business vehicles while promoting “Fresh from Florida” commodities. Members may be reimbursed up to \$2,000.

The Department is continually working to develop marketing strategies to assist in the promotion of Florida’s agricultural products in both the United States and abroad. Now in its 19th year, FAPC has successfully led to increased sales and public awareness of Florida’s agricultural industry and its vital importance to the state’s economy.

“Fresh from Florida” Magazine

The Florida Agricultural Promotional Campaign (FAPC) magazine, “Fresh from Florida,” is published twice a year. This high-gloss, full-color publication promotes Florida’s agriculture industry through feature articles on members and industry-sponsored events, educational information relating to the state’s present and future

farmers, and seasonal articles on specific commodities. The magazine also includes recipes and articles promoting better nutrition from the Department’s executive chef. The publication is distributed to all FAPC members, national and international produce and seafood buyers, attendees at trade events, and other agribusiness industry professionals.

Xtreme Cuisine Cooking School

With the number of overweight and obese youth climbing each year, health and fitness issues are at the forefront of today’s news. To address these issues, the Division of Marketing and Development developed the “Xtreme Cuisine” curriculum to teach Florida youth how to prepare nutritious and tasty treats. The cooking classes also teach kids how Florida produce provides vitamins and minerals that can help prevent heart disease and other obesity-related illnesses. In addition, students learn the dangers caused by excessive amounts of salt, sugar, and fats in their diet.



In 2008 and 2009, Florida youth workers have been teaching the “Xtreme Cuisine” concepts to students all over the state. Through Florida Farm Bureau offices, 4-H programs, public and private schools, and other youth settings, students are learning how to make their own healthy snacks by using “Fresh from Florida” products and other nourishing ingredients. The “Xtreme Cuisine” cooking classes were introduced to 2,360 students in 16 Florida cities during this fiscal year.

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Agriscience Education Leadership Program

The Agriscience Education Leadership Program was created in an effort to make the agriscience and natural resources field more desirable to teachers and to encourage more students to take agriscience courses. The Florida Department of Agriculture and the Florida Department of Education created the training program to allow Florida's agriscience teachers to develop and improve their leadership skills and knowledge of current agricultural production.

The participants consist of agriscience teachers and supervisors from different counties in the state who have at least three years of experience. Participants were nominated by their school district's superintendent and then selected by a special committee based on application information and essay answers.

With the Agriscience Education Leadership Program, teachers can expand their curriculum to include all components of agriculture. The program also allows them to refine their leadership skills in order to provide quality education for students. In 2008 and 2009, the group met six times and traveled to more than 50 different sites relating to agriculture, from the Department's offices to strawberry fields. The training and education the teachers receive lays a strong foundation and understanding about Florida agriculture that students can build on and appreciate.

Fresh from Florida Kids

Fiscal year 2008-2009 marked the second year of the "Fresh from Florida Kids" program. The campaign was created to introduce fresh, healthy foods at an early age to help infants and toddlers develop a preference for fresh foods rather than processed foods. The campaign also focuses on helping mothers learn how to quickly and easily prepare healthy baby foods using fresh fruits and vegetables. The Department teamed up with Florida's Healthy Start Coalitions and Publix in five regions of the state for the educational campaign.

The program is divided into three phases over two and a half years. Each phase represents a child's eating behavior, spanning from six months to three years old. Parents are surveyed at the end of each phase, which helps to evaluate the program's success.

The web site www.FreshFromFloridaKids.com helps parents learn about healthy baby foods. The web site contains more than 100 recipes, cooking and storage tips, and detailed health and nutrition information for both children and parents.



African-American Health and Nutrition Campaign

In August 2008 the Department participated in the annual "Speaking of Women's Health" event in Jacksonville. The conference is designed to celebrate women of color and educate them about preventative health care. A lifestyle survey was conducted, and fresh produce was distributed to 1,000 participants.

Division staff attended the Florida Classic Fan Fare in November 2008 to further promote health and wellness among minorities. The Florida Classic Fan Fare is the annual event held just before the football game between Florida Agricultural and Mechanical University and Bethune-Cookman University. Each year the event brings more than 70,000 fans to the Florida Citrus Bowl in Orlando.

In June 2009 division staff participated in the Second Annual Universal Sisters health event in Jacksonville. The event was designed to address the unique health concerns of women of color. Radio station WJCT, Baptist Health, the Women of Color Cultural Foundation, and "Fresh from Florida" were some of the contributing sponsors of the event. The conference featured keynote speakers, small group sessions, and free health screenings in an effort to provide vital health information related to women of color. Conference participants and

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exhibitors received a “Fresh from Florida” shopping bag full of fresh produce.

Hispanic Health and Nutrition Campaign

In 2008 and 2009, the division ran the new “Fresco para ti” 60-second radio promotions on 10 Hispanic radio stations on ClearChannel’s FNN Hispana Network and Univision radio. The radio promotions informed consumers about Florida’s agricultural products and encouraged them to look for the “Fresh from Florida” logo when shopping. The radio promotion complemented the “Fresh from Florida” circular promotions in Sedanos and Bravo supermarkets.

During the summer of 2009, the division conducted a tropical fruits promotion through Univision Radio online. The promotion included “Fresco para ti” radio spots and online ads informing consumers about the availability of Florida’s tropical fruits and linking to the www.Florida-Agriculture.com web site.

Culinary Promotions

Award-winning chef Justin Timineri serves as the culinary ambassador for the state of Florida. His job as executive chef is to promote Florida products by creating new recipes, attending trade events, performing cooking demonstrations, and educating children about health and nutrition. He supports Florida’s agricultural industry by creating healthy, modern-style dishes that reflect the state’s diverse population. Chef Justin’s philosophy is that cooking should always be fun, simple, and flavorful.



In 2009 Chef Justin and the Department designed and printed new brochures to be used in Publix stores around the state. The brochures feature several of Chef Justin’s recipes and information on buying, storing, and cooking Florida produce.

Advertising Campaigns

There were three different advertisements that ran in a variety of consumer and industry publications throughout the year. Each ad had two different versions: one that targeted industry representatives and buyers, and one that targeted consumers. The ads appeared a total of 19 times throughout 2008 and 2009.

A football-themed radio advertisement was created in 2009 that will run on sports radio networks during FSU, UF, Miami, UCF, and USF games. The 30-second spot promotes Florida’s “top picks” of fresh fruits and vegetables.

Social Media

In 2009 the Division of Marketing and Development created a number of online profiles and content to connect with a broad group of both consumers and industry representatives through social media.

The “Fresh from Florida” blog at <http://freshfromflorida.wordpress.com> is used to promote members of the Florida Agricultural Promotional Campaign (FAPC), let consumers know when commodities are in season, share recipes and cooking tips, and bring attention to important issues related to Florida agriculture.

The Florida Agriculture Facebook page at www.facebook.com/FloridaAgriculture is used to routinely interact with supporters of Florida agriculture by sharing photos and news, as well as asking and answering questions.

Twitter, the popular microblogging web site, has been utilized by the “Fresh from Florida” program to share news and information with a large group of consumers and people in the agriculture industry across the country. The “Fresh from Florida” Twitter page can be found at www.twitter.com/freshfromFL.

Retail Campaigns: Global Grid and Winners Circle

For six straight years now, retail campaigns “Global Grid” and “Winners Circle” have been present in more

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than 10,000 stores worldwide. This level of penetration in the retail sales environment is unprecedented and clearly demonstrates the Department's commitment to helping Florida's agricultural producers retain and expand sales in both domestic and international markets.

"Global Grid" has become the largest retail operation conducted by the Department, with more than 9,900 participating stores worldwide. Known as "Northern Exposure," "Powergrid" and "Storming Across North America" in past years, this program tops the more than 200 marketing enterprises conducted by the Department each year. Retaining a strong presence in the United States and Canada is of primary importance. Measuring results is critical to managers, and exports of fresh Florida fruits and vegetables to Canada have soared with "Global Grid." Before the campaign began, exports of fresh fruits and vegetables from Florida to Canada totalled \$291 million. In 2008 exports totaled \$428 million. Individual store advertisements have also soared in this same period, increasing from 22,000 in 2002 to 274,000 during the 2008-2009 program year.

In its ninth year, the "Winners Circle" campaign remains focused on Florida retailers and surrounding states and included 1,777 stores this year. The program continues to stress the earlier successes of similar retail campaigns like "Chill It or Grill It," "Greetings from Florida Farmers" and "Farmer's Express." Approximately 138,000 individual store advertisements were generated this year, the highest level achieved so far in this campaign.

Between November 2008 and May 2009, the combined campaigns included 11,728 stores with 41 retail partners. More than 12.9 billion consumer impressions were generated from store advertisements. The geographic areas the campaigns covered include 44 U.S. states, three Canadian provinces, 11 Central American and Caribbean nations, and South Korea. The sales generated an estimated \$142.8 million in farm gate cash receipts for Florida farmers, creating more than 4,800 new Florida jobs and adding \$17.9 million indirectly to local and state budgets.

Trade Events

Marketing representatives traveled to Orlando in October 2008 to attend the Produce Marketing Association's (PMA) Annual Convention and Trade Show. Ten Florida

companies, consisting of growers, packers, distributors, producers and associations, attended and displayed produce in the "Fresh from Florida" pavilion. Executive Chef Justin Timineri performed cooking demonstrations at the pavilion as well. PMA drew more than 17,000 attendees and featured more than 800 international exhibitors.

The Division of Marketing and Development works with the Florida Nursery Growers and Landscaping Association throughout the year by attending domestic and international trade shows, hosting reverse trade missions, and assisting with other marketing opportunities. The two main shows sponsored by FNGLA are the Tropical Plant Industry Exhibition (TPIE) and The Landscape Show. TPIE is held every January in Fort Lauderdale at the Broward County Convention Center. With a focus on tropical plants and the allied trades that complement the industry, the Department shows its support through booth sponsorship. The Landscape Show, formerly known as the Florida Nursery and Allied Trades Show, is held every year at the end of September or beginning of October at the Orange County Convention Center.



This event focuses on Florida horticulture and floriculture, encompassing everything within the wide horticulture spectrum, from flowers to trees. At both shows, division staff members educate attendees about marketing initiatives and services provided through the Florida Agricultural Promotional Campaign. The partnership shared between the Department and the FNGLA is valuable because it positively impacts a large number of agricultural producers.

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SIAL, one of the world's largest food and beverage trade events, was held in October 2008 in Paris. Over 148,000 visitors from more than 185 countries attended the event. The division hosted a Florida Pavilion within the USA Pavilion at the show. Floridella, a juice company that packages and distributes Florida orange juice around the globe, was one of the companies that displayed their product in the pavilion.

The 84th Annual Canadian Produce Marketing Association (CPMA) Convention and Trade Show was held in Toronto in May 2009. The trade show hosts over 240 exhibitors from countries around the world. The division brought three of Florida's growers, B&W Quality Produce, Blue Lake Citrus/Noble Worldwide, and Kerry's, together within the Florida Pavilion at the event. There were more than 3,000 attendees from over 13 countries at the 2009 show.

International Marketing

The Division of Marketing and Development regularly conducts trade missions and attends events in foreign countries in conjunction with the Southern United States Trade Association (SUSTA). SUSTA is a nonprofit program funded by the U.S. Department of Agriculture that aims to increase exports of southern U.S. food and agricultural products. The long-term strategy of these missions is to create awareness of southern U.S. food products and to increase trade between the United States and foreign countries. This year the Department participated in SUSTA activities in India, Egypt, France, China, Germany, Dubai, Korea, and Saudi Arabia. The Department also played host to Canadian produce buyers during a reverse trade mission.

India: In 2008 the Department participated in the SUSTA India trade mission. This mission had companies from the SUSTA region meeting with key importers in New Delhi and Mumbai.

India is an important market for many companies since it has the world's second fastest-growing economy. The share of retail trade in India's gross domestic product was 8 to 10 percent in 2007, is currently around 12 percent, and is likely to reach 22 percent by 2010. In December 2009 Florida will again attend the India IFE show, India's principal food, drink, and hospitality

show, and, along with SUSTA, conduct a trade mission with several SUSTA region companies.

Egypt: In November 2008, for the first time, SUSTA participated in a trade event in Cairo. The Department and the Georgia Department of Agriculture were activity managers for the event. The trade show housed more than 400 exhibitors and had 10,000 visitors. The long-term goal is to locate importers and to identify the demand for southern U.S. products in Egypt, to educate chefs in the preparation of quality U.S. food products, and to build awareness, thus increasing the export of food from the southern states. Six Florida companies sent products to the event, and Florida's Chef Justin Timineri prepared samples from the products for visitors to taste.

France: In January 2009 the Division hosted Orchid Island Juice, a Florida juice company, at the Salon International de la Restauration de l'Hôtellerie et de l'Alimentation (SIRHA) food show in Lyon, France. The division's participation in the trade show allowed Orchid Island to introduce their juice to French importers, distributors and consumers.

China, Germany, Dubai: As part of its efforts to promote Florida's prominent horticulture industry around the world, the division partnered with International Pflanzenmesse (IPM) trade shows in China, Germany, and Dubai in December, January, and March. Florida's horticulture industry was introduced to the Chinese horticulture market through the promotion of the show and recruiting efforts. Florida companies Foremostco, Underhill Nurseries, and Peacock Tree Farms participated at the IPM Germany event. Pine Island Nursery and Peacock Tree Farms promoted Florida Palms in Dubai.

Korea: In May 2008 the division participated in the Seoul Food and Hotel Show. One featured product that received a lot of attention was Florida potatoes. The ratification of the Korea-U.S. Free Trade Act will provide additional opportunities for U.S. potato products, which is expected to bolster the existing strong U.S. market share. Prior to the show, the division held a "Fresh from Florida" grapefruit promotion. Korean retailer E-Mart featured Florida grapefruit in 30 major outlets. Korean shoppers had the opportunity to sample and purchase Ruby Red grapefruits.

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Saudi Arabia: In cooperation with SUSTA, the division also participated in a trade mission to Saudi Arabia. Bouras Global Trading from Fort Lauderdale was one of several companies from the southern United States that met with Saudi buyers in Riyadh. Mohamed Bouras, president of Bouras Global, signed several purchase orders, as did all other companies that participated. From Riyadh the mission headed to Jeddah where companies exhibited their products in the SUSTA booth at Food Arabia. This was the second year of a five-year program to participate in this show.

Canadian Reverse Trade Mission: The Department, in conjunction with SUSTA, hosted a Canadian reverse trade mission in March 2009. A group of retail and wholesale produce buyers from Ontario flew into Miami to tour farms and packinghouses in South Florida. The buyers were able to get a firsthand look at the commodities Florida produces, their seasonal availability, and the technology and safety practices used in the state. Missions like these are productive for Florida farmers not only by allowing them to showcase products grown in the state but also by helping them understand what retail demand they can fulfill.

Cattle Trade Missions

The Department is continually working to attract international livestock buyers. Florida's livestock breeds, especially beef cattle, are well suited to many areas of the world because they show little or no effects from extremely high temperatures. These animals have adapted to tropical and subtropical climates, making them desirable to producers from countries with similar climate conditions.

In October 2008 a group of potential buyers and officials from the Cayman Islands traveled to Florida to meet with cattle and goat producers. The delegation spent several days visiting ranches and driving through agricultural production areas. This important reverse trade mission allowed established relationships to be strengthened and new contacts to be made. The group made arrangements to purchase both cattle and goats.

In November 2008 a delegation of cattlemen from Arizona and Florida, along with representatives from the American Brahman Breeders Association and the

Department, attended the Fifth Eastern Cattle Show in Pattaya, Thailand. Representatives from Arizona and Florida judged during the show. In addition to meeting with local cattlemen, the group was able to visit processing facilities and other agricultural production areas.

Both these and other trade missions foster communication between countries and educate producers. Participants learn about issues dealing with production and trade. The missions also contribute to the creation of a friendly business environment.

Florida Thoroughbred Trade Missions

Florida is home to some 600 Thoroughbred farms and training centers, with more than 75 percent of these located in the Ocala-Marion County area. These farms, training centers, and breeding and racing stock create an economic impact estimated at \$1 billion annually.

The Department continues to attract international buyers by conducting trade missions from Florida and hosting reverse trade missions into the state. Trade contacts initiated by the Department have resulted in more than \$3.8 million in Florida horse exports. This number is expected to grow as Florida marketing representatives continue to facilitate trade missions with foreign buyers. During the past year, the division sent an equine trade mission to India and conducted reverse trade missions for delegations from Korea, Italy, and Ireland. These missions were co-hosted by the Florida Thoroughbred Breeders' and Owners' Association, with the purpose of educating foreign buyers on the quality and value of Florida's equine industry.

Seafood and Aquaculture Marketing

The Department's Bureau of Seafood and Aquaculture Marketing provides marketing strategies for Florida's seafood and aquaculture industry to facilitate buying, selling, and the promotion of Florida seafood and aquaculture products. The mission of the bureau is to market Florida products to consumers and help the seafood and aquaculture industry increase sales.

The bureau produces educational materials for consumers. It provides promotional materials, supplier directories, and training on handling and storage safety for retailers, foodservice professionals, wholesalers, and processors. The bureau provides educational and tech-

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nical support and training for fishermen, aquaculturists, retailers, and foodservice professionals. It serves as a liaison for aquaculturists, commercial fishermen, government agencies, and the consuming public by utilizing the expertise of industry advisory councils. The bureau provides public relations to the media on behalf of the seafood, aquaculture, and marine life industries. It also provides marketing services, including electronic marketing programs identifying U.S. and international buying and selling operations. It assists and promotes Florida industry through the distribution of recipe brochures and educational materials to visitors at seafood festivals throughout the state and at industry trade events both at home and abroad.

The Department is committed to serving seafood and aquaculture audiences with integrity and professionalism to increase the industry's sales and profits through global marketing and education. Activities of the Bureau of Seafood and Aquaculture Marketing generated 582 million consumer impressions nationwide with a sales value of approximately \$22.7 million. Chief among the audiences served by the Department are:

- Consumers seeking information to wisely purchase, prepare, serve, and store seafood and aquaculture products. The Department reaches consumers by means of printed materials, news releases, and public service announcements through television, radio, print media, and appearances at regional seafood festivals.
- Producers (fishermen, processors, and aquaculturists) turn to the Department for technical, educational, marketing, and promotional assistance, as well as safety, handling, and storage information. Florida fishermen and processors took advantage of marketing and promotional opportunities to sell their products. The Department's marketing and promotional programs use the "Fresh from Florida" logo and are backed by a multilevel campaign creating consumer awareness and interest and fueling demand for Florida products.

TV Consumer Shows

On a regular basis during the year, staff prepared culinary segments featuring Florida seafood, fruits, vegetables, and other Florida products on the CBS television affiliate in Tallahassee. The recipes used in the segments demonstrate the ease of cooking fresh Florida seafood at

home. During the culinary features, bureau staff pointed out the many health benefits of eating fresh seafood. Florida seafood highlighted in these segments included scallops, wild-caught shrimp, flounder, oysters, stone crab, blue crab, farm-raised clams, spiny lobster, grouper, and red snapper.

Seafood and Aquaculture Festivals

The bureau exhibited and distributed recipe brochures at the Apalachicola Seafood Festival, which drew 16,000 attendees; Clamerica Festival in Cedar Key, which drew 12,000 attendees; Lakeridge Winery Food and Wine Festival in Clermont, which drew 3,000 attendees; and the Mighty Mullet Festival in Panacea, which drew 2,000 attendees.



Pocket Reference

The bureau printed a handy pocket-sized chart titled "Catch of the Day" to show seasons of availability for the top 10 species of fish and shellfish that are abundant in Florida. The back side of the card features aquaculture "fast facts" about the industry. The card is available for distribution at the retail and restaurant level and to give away at trade shows and seafood festivals.

SUSTA Trade Mission to Moscow

Bureau of Seafood and Aquaculture Marketing staff spearheaded a trade mission to Moscow in June 2009. The mission was conducted under the auspices of the Southern United States Trade Association (SUSTA) and included alligator farmers, trappers, and hide processors and tanners. The goal of the mission was to open new Russian markets for alligator hides and skins. As a result of the worldwide recession and decreasing demand,

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traditional markets in Europe have become saturated as stockpiles of alligator hides have increased. In an effort to tap new markets, the bureau targeted Russia as a potential new source of sales. SUSTA approved and funded the activity at \$51,520, which included market and government-based research. Research helped identify trade issues in the Russian marketplace, including customs issues, tariffs, and the implications of CITES, the international treaty regulating sales and possession of alligator hides. Also studied were the Russian consumer market for luxury goods and the flow of goods through the supply chain.

The Great American Seafood Cook-Off

The bureau sponsored Chef Andre Bienvenu of Joe's Stone Crab in Miami Beach at the Great American Seafood Cook-off 2008 in New Orleans in August 2008. Selected by Commissioner Bronson to represent Florida, Bienvenu competed with chefs from 20 states for the "King of Seafood" title. He prepared an entrée featuring Florida stone crab, spiny lobster, shrimp, snapper and farm-raised clams in his signature Florida cuisine from Joe's Stone Crab. The Department's Executive Chef Justin Timineri judged the event and crowned the winner.

Smithsonian National Museum of Natural History Ocean Hall Sustainable Seafood Event, Washington, D.C.

The bureau helped sponsor the Smithsonian's Ocean Hall Sustainable Seafood Event in March 2009 at the Smithsonian National Museum of Natural History's new Ocean Hall, which opened in September 2008. Panel discussions focused on preserving the health of oceans through science, education, and conservation. Chef Allen Susser of Chef Allen's in Miami prepared Florida seafood entrees for attendees at the Sustainable Seafood Celebrity Chef Event.

South Beach Wine and Food Festival

Bureau staff, Florida's Culinary Ambassador Chef Justin Timineri, and Chef Josh Butler, executive chef for the Florida Governor's Mansion, served Florida alligator to attendees at the South Beach Wine and Food Festival. Chefs from the Food Network and local restaurants participated. Florida alligator businesses participating were Gatorama of Palmdale and All American Gator of Hallandale. The booth was sponsored by the Florida Alligator Marketing and Education Advisory Committee (FAME).

Aquaculture Marketing and Education Program

Thanks to a Florida Aquaculture Review Council grant in fiscal year 2008-09, the bureau was able to develop an introductory "Discover Florida Aquaculture" multimedia program. The goal of this program was to provide an introduction to aquaculture concepts and opportunities to today's students and tomorrow's business leaders. It was primarily targeted to the middle and high school student age group and consumers.

The components of the program included the "Discover Florida Aquaculture" booklet, video, poster, and stickers. In addition, new aquaculture-specific web pages were incorporated in the bureau's web site www.FL-Seafood.com. Teachers can download the components or order them via fax or mail. In May a letter was sent to all Florida middle and high school principals to inform them of the availability of these materials as a teaching resource. The response was outstanding. One hundred and fifty orders from teachers were processed. With the shipment of the materials it is projected that nearly 26,000 students were reached.

Public Relations

The bureau's public relations efforts for fiscal year 2008-2009 continued to increase media and consumer awareness about Florida seafood and aquaculture products. This year's initiatives included commodity-specific and informational press releases, event participation, distribution of promotional materials, television cooking segments, and direct media contact.

Almost 754 million gross impressions and over \$61,000 in ad value were obtained from earned media. This exposure was accomplished by utilizing a multimedia approach at minimal cost, and 41 documented articles or features were published in print or online as a result of these efforts.

Marketing Seafood to the 55-and-Older Generation

The bureau coordinated a study to identify the attitudes and preferences of the 55-and-older age group relating to eating seafood and farm-raised aquatic products in 2007-2008. This research was funded as part of a grant from the U.S. Department of Agriculture's Federal-State Marketing Improvement Program. The Department contracted with the University of Florida to conduct the research. Based on the findings and recommendations

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of this research, a brochure titled "Florida Seafood for the Savvy Generation" was developed and printed. This booklet includes information about the nutritional content of seafood, the health benefits, handling, buying, and cooking tips, and a "How Much Seafood to Buy" table. During 2008-2009, over 42,000 booklets were ordered by retirement centers, consumers, and Florida seafood retailers.

Marketing Campaigns

At the request of the seafood industry, the bureau launched marketing campaigns for mullet, spiny lobster, and stone crab. Each campaign used press releases, recipes, and graphics. Through the bureau's web site, restaurants and retailers can order mullet and spiny lobster posters and recipe brochures, as well as posters, table tents, and staff buttons with a Florida stone crab theme.

Fishery Trade Leads

Leads from companies seeking fishery products, obtained from the National Marine Fisheries Service, the USDA's Foreign Agriculture Service, and from foreign and domestic companies, are compiled by the bureau and distributed to over 200 Florida seafood and aquaculture companies by email and fax. Trade lead recipients reported 13 new customers, 31 new prospects, and sales totaling \$400,000 resulting from these leads.

International Boston Seafood Show

The bureau coordinated and hosted the Florida Pavilion at the International Boston Seafood Show in March 2009. Florida seafood and aquaculture companies were provided a high-profile opportunity to present and promote their products within the pavilion. Seven Florida companies and the Florida Alligator Marketing and Education Committee promoted Florida seafood and aquaculture products, made new contacts, and generated sales. Over 17,000 international seafood and aquaculture buyers attended the show. Those buyers visiting the Florida Pavilion contributed to a banner year with an estimated \$21 million combined sales, a record for the participants.

Las Vegas Restaurant Show

The Florida alligator industry was well represented at the Las Vegas Restaurant Show in March 2009. Department Executive Chef Justin Timineri served alligator bites and a large pot of alligator picadillo, a Cuban dish, to at-

tendees. Over 28,000 restaurant owners, managers, buyers, and decision makers were in attendance. A culinary competition was set up across the aisle, so future executive chefs were introduced to the quality and versatility of Florida alligator meat. Florida alligator businesses participation in the show were All American Gator of Hallandale, Parker Island Gator Farm of Lake Placid, and Gatorama of Palmdale. The booth was sponsored by the Florida Alligator Marketing and Education Advisory Committee (FAME).

European Seafood Expo

On behalf of the Southern United States Trade Association (SUSTA), the bureau coordinated a Southern U.S. Seafood pavilion at the European Seafood Expo in Brussels, Belgium, in April 2009. As the largest seafood-only show in the world, this show attracted buyers from 87 countries. Participating Florida companies reported sales at the show of \$20.1 million.

Asia Events

SUSTA, the U.S. Department of Agriculture's Agricultural Trade Office in Seoul, South Korea, and bureau staff helped facilitate the United States Pavilion at the 2008 Busan International Seafood and Fisheries Expo in Busan, South Korea. The expo was a great opportunity for SUSTA companies to showcase their products for the over 8,000 buyers in attendance. Chef John Maxwell cooked and served Florida spiny lobster, stone crab claws, and other seafood products for the interested buyers. This expo enhances Florida's seafood and aquaculture presence and strengthens the state's competitiveness in Asia and the Pacific Rim. The combined participating companies in the U.S. Pavilion report projected sales in excess of \$2 million directly from this event.

"Sea Notes" Industry Newsletter

To help maintain communication with the Florida seafood and aquaculture industry, the bureau produces "Sea Notes," an electronic newsletter distributed quarterly to seafood restaurants, retail markets, wholesalers, and other seafood allied industry members. The newsletter showcases the bureau's promotional efforts and provides timely Florida seafood industry news. "Sea Notes" notifies recipients of opportunities for industry to be involved in marketing activities coordinated by the bureau.

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Florida Seafood Seasons Advisory

The Bureau of Seafood and Aquaculture Marketing publishes the Florida Seafood Season Advisory, an informational piece to inform Florida's retail, wholesale, and restaurant seafood industry of upcoming seasons as well as other topical information such as changes to quotas and bag limits. This email advisory is distributed monthly, or as often as necessary, and highlights openings and closures of commercially harvested Florida seafood. In addition to regular monthly distribution, special advisories are sent as warranted when new or updated information regarding a certain species, opening, or closure is received.

Promoting Seafood and Aquaculture on the World Wide Web

The bureau's web site, www.FL-Seafood.com, provides consumers, Florida's seafood and aquaculture industry, retailers, and the press with many downloadable seafood and aquaculture-related brochures, point-of-purchase materials, videos, audio files, and press releases. For consumers, the web site features: Florida seafood recipes, nutritional information about seafood, information about popular Florida seafood products, oyster safety information, a calendar of Florida seafood festivals, a list of retailers and restaurants across the state that feature Florida seafood, history of Florida's coastal fishing communities, a list of suppliers of finished alligator leather products, and tips for handling, storing, and cooking seafood. For wholesalers and retailers, the web site provides convenient on-line order forms for promotional materials, research and educational information on food safety and handling, trade leads, seafood advisories, and the Sea Notes newsletter.

"Go Native! Eat Florida Seafood" Campaign

The "Go Native! Eat Florida Seafood" campaign, rolled out early last summer, continued to be popular with Florida's retailers, restaurants, and consumers this year. Multimedia initiatives to promote the campaign were launched throughout the year, and the bureau received requests for nearly 81,000 of the associated promotional materials.



Bureau of Education and Communication

The Bureau of Education and Communication is responsible for educating and informing consumers and industry segments through news releases, brochures and other publications, exhibits and displays, graphics presentations, the Internet, broadcast, and other media. The creative design and production services provided by the bureau are integral to many projects that are part of the Florida Agricultural Promotional Campaign (FAPC), a program that assists the state's agricultural producers in expanding markets and promoting and selling Florida products. In addition to its role within the Division of Marketing and Development, the bureau also produces numerous projects for other divisions throughout the Department.

During fiscal year 2008-2009, the bureau distributed more than 140 press releases to inform the public about various regulatory and promotional activities of the Department. The bureau also responds to inquiries from the public and mails out publications requested by visitors to the Division of Marketing and Development's web site www.Florida-Agriculture.com.

Florida Market Bulletin

The online Florida Market Bulletin provides a forum by which Florida residents can advertise to buy or sell agriculture-related items. During the 2008-2009 fiscal year, 3,983 classified ads were published online.

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Video and Radio Production

The bureau produces and disseminates audio and video productions such as television and radio public service announcements, radio programming, agricultural producer assistance videos, informational/promotional videos, documentaries, and training videos. Among the projects produced during the fiscal year were:

- Two 30-minute episodes of “The Florida Report” that explain the Department’s agricultural support functions and highlight the practices of various farming operations around the state. Produced in conjunction with the Florida Farm Bureau, these reports aired on RFD-TV, a satellite network that primarily serves rural and farming communities nationwide.
- An informational/promotional video about the FFA state officers.
- An informational video about Florida’s “Woman of the Year in Agriculture,” outlining the lifelong contributions to the state’s agricultural industry by the 2008 award recipient, Patsy Nathe of Dade City.
- Two documentary videos about the winners of the 2008 Commissioner’s Agricultural-Environmental Leadership Awards, detailing the progressive environmental practices of Carroll Brothers Nursery in Clearwater, and Brock Family Farm in Monticello.
- An informational video about Florida’s unique “Cracker Cattle” breed and its role in the development of the state’s agricultural industry. The video is part of a permanent historical display, “Florida Cattle Ranching: Five Centuries of Tradition,” administered by the Florida Department of State.
- Three television public service announcements showing the value of agriculture as a stable source of revenue and jobs during current challenging economic times.
- Two television public service announcements about Florida’s wildfire season, one advising residents to use caution when burning yard trash, and one urging residents to be watchful for possible arson activity.
- A weekly agricultural radio news program produced in conjunction with Southeast AgNet.

– Radio spots promoting “Fresh from Florida” agricultural products that aired on various Florida university sports networks.

– A video promoting the Florida State Employees Charitable Contribution Campaign.

– An informational video about native Florida wildflowers which outlines the benefits of using native seeds for large commercial and civic projects as well as small home projects.

Graphics Production

The bureau is responsible for the design, illustration, and production of printed brochures, reports, booklets, posters, billboards, ads, and other marketing, promotional, and educational materials pertaining to agricultural marketing programs and other activities of the Department. The bureau’s graphics section was involved in the production of more than 300 projects during the fiscal year. Among the graphics projects produced during the fiscal year were:

- 2008 Department Annual Report. This 178-page report provides an overview of the Department’s activities during fiscal year 2007-2008 in supporting Florida agriculture, promoting Florida agricultural products, ensuring a safe and wholesome food supply, conserving the natural environment, safeguarding consumers, responding to emergencies, and promoting employee excellence.
- “Florida Agricultural Statistical Directory 2008,” which is produced in conjunction with the U.S. Department of Agriculture. This 150-page book provides a statistical examination of Florida’s food, fiber, and forestry industries. In addition to agricultural statistics and specialized data, the directory contains price histories and production levels of various commodities, a listing of agricultural groups and associations in Florida, and a listing of producer assistance services offered by the Department.
- Commissioner’s Agricultural-Environmental Leadership Awards 2008 program booklet, detailing the progressive environmental practices of the two farming operations that received this year’s award.

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- “Woman of the Year in Agriculture Award” 2008 program booklet, detailing the award recipient’s contributions to the state’s agricultural community.
- A series of brochures promoting fresh Florida produce items.
- “Xtreme Cuisine” educational cooking guide for children.
- Numerous informational and promotional brochures, magazine ads, posters, displays, and other miscellaneous graphics projects.

Web Development

The Bureau of Education and Communication designed and maintains the Division of Marketing and Development’s two web sites, www.FloridaAgriculture.com and www.FL-Seafood.com. During fiscal year 2008-2009, the two sites received over 673,000 visits, which yielded more than 2.64 million page views.



The sites contain information and materials that help Florida farmers more effectively market their commodities. These marketing tools include trade leads, current market prices, information about the Florida Agricultural Promotional Campaign, agricultural statistics, license and bond requirements, agricultural classified ads, point-of-purchase marketing and promotional materials, and an extensive list of agricultural links for research purposes.

The web sites also foster the notion that the more consumers know about the many agricultural commodities grown in Florida, the more they will choose to buy products that are “Fresh from Florida.” The sites inform consumers about the wholesomeness, variety, and availability of Florida agricultural products by providing: recipes for meals using Florida-grown ingredients, nutritional data, seasonal availability information, food handling and safety tips, and locations and contact information for Florida’s community farmers’ markets, U-pick farms, seafood markets, agricultural fairs and expositions, and wineries and vineyards.

In addition to the division’s two primary web sites, the bureau also developed and maintains other web sites that promote the “Fresh from Florida” message, including:

www.FreshFromFlorida.org
www.FreshFromFloridaKids.com
www.TheFloridaChef.com
www.WildFloridaShrimp.com

The bureau develops and maintains other web sites in cooperation with agricultural organizations that have partnered with the Division of Marketing and Development to promote Florida agricultural products. These web sites include:

www.FloridaWildflowers.com
for the Florida Wildflower Seed and Plant Growers Association, Inc.

www.WildflowerTag.com
for the Florida Wildflower Advisory Council

www.PropaneFL.com
for the Florida Propane Safety, Education and Research Council

www.Florida-Farmers.com
for the Florida Farm Bureau Federation

www.GreenPlantsForGreenBuildings.org
for the Green Plants for Green Buildings, Professional Landcare Network

www.FIFNC.com
for the Florida Interagency Food and Nutrition Committee

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Employee Newsletter

The bureau produced four issues of the Department's Intranet-based employee newsletter, Open Lines.

Food Distribution

The Department administered or provided support through commodities and/or cash for a number of U.S. Department of Agriculture programs in Florida, including the National School Lunch Program, Summer Food Service Program, and the Emergency Food Assistance Program that provides commodities for distribution to the needy.

During fiscal year 2008-2009, approximately 200 agencies serving over 4,000 public and private schools, food banks, food pantries, soup kitchens, and other emergency feeding organizations throughout Florida, received about 90 million pounds of food valued at approximately \$80 million. As a result, about 1.5 million people were reached on a daily basis, making Florida's food distribution program the fourth largest in the nation.

The Department is involved in the Food Recovery Program and other programs that endeavor to eliminate hunger and food insecurity in the state. This fiscal year, farmers donated over 6.2 million pounds of fresh produce for distribution to those in need. The Department produces the Food Recovery Resource Guide, which lists organizations involved in food recovery. The guide is available on the Department's web site to the general public and to schools, restaurants, hotels, grocery stores, and other entities involved in the preparation of meals and/or the sale of food items.

WIC/Farmers' Market Nutritional Program

The Florida Department of Agriculture and Consumer Services and the Florida Department of Health jointly administer the WIC/Farmers' Market Nutrition Program. This U.S. Department of Agriculture program has two statutory objectives: to provide fresh produce to eligible women and children who are nutritionally at risk, and to help local farmers by expanding the awareness of, use of and sales at local farmers' markets. During this fiscal year, booklets totaling approximately \$600,000 in \$4 coupons were provided to 29,986 eligible WIC clients in Alachua, Bay, Escambia, Gadsden, Gilchrist, Holmes,

Jackson, Leon, Okaloosa, St. Johns, Santa Rosa, Sumter, Suwannee, Union, Walton, and Washington counties. The Department entered into agreements with 237 farmers authorizing them to participate in the program. Participants can redeem the coupons for the purchase of locally grown fresh fruits and vegetables from authorized farmers at community farmers' markets. WIC/FMNP is a very successful program that provides eligible WIC clients with nutrition education and fresh produce, and participating farmers with new customers. As a result, both groups continue to enthusiastically support the program.

Emergency Response

As the lead agency for Emergency Support Function (ESF) 11, the Department is responsible for acquiring food, water, and ice for disaster victims. In the event of a disaster, the Bureau of Food Distribution also provides USDA commodities to disaster relief organizations for the mass feeding of disaster victims at designated feeding sites. Water and ice are given out at various points of distribution throughout the affected area.



In 2008-2009, Tropical Storm Fay made history by making landfall in Florida four times. The storm caused major flooding in several parts of the state. While ESF 11 staff responded to the disaster, it was not necessary for the Department to furnish supplies.

ENSURING A SAFE, WHOLESOME FOOD SUPPLY

Division of Food Safety

The Department's experienced staff of public health professionals and laboratory scientists monitor over 48,000 food manufacturing/processing plants, retail food establishments, and similar food businesses to ensure compliance with food wholesomeness and safety standards. The Department maintains a close working relationship with the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), the Florida Department of Health (DOH), the Florida Department of Business and Professional Regulation (DBPR), and other agencies to share information, avoid duplication of effort, and carry out food safety activities effectively and efficiently.

The Department continues to emphasize proper sanitation and safe food handling practices in the establishments that it inspects, permits, and regulates. It also provides consumer protection safeguards by checking the accuracy of product labels, net weight, and grade standards. Laboratory analysis is performed to ensure the absence of food-borne pathogens or other contaminants. By administering the Interstate Milk Shippers Program and similar state regulations, the Department assures consumers that dairy products are wholesome and are produced, processed, and merchandised under sanitary conditions. These programs also enable Florida dairy farmers to ship their products in interstate commerce.

The Department continues to assist the food industry through training for the implementation of Hazard Analysis Critical Control Point (HACCP) programs. HACCP concentrates on preventing, eliminating, or reducing food safety hazards to an acceptable level; these hazards may occur during any stage of the food production or handling process. Thus far, HACCP training efforts have concentrated on high-risk foods, including seafood, sushi, sprouts, unpasteurized juices, and other high-risk processes such as acidification and reduced oxygen packaging.

One of the Department's missions is to protect the public from unsafe foods by laboratory surveillance testing for food-borne pathogens, illegal additives or contaminants, misrepresented products, and the presence of pesticides or other chemical residues for the enforce-

ment of established tolerances. The Department is a national leader in the development and implementation of sophisticated analytical techniques and methods to ensure the safety of foods throughout the production and distribution process.

The Department emphasizes the prevention of food-borne illness, and when any situation relating to food safety arises, the Department has the authority to immediately stop the use of improper equipment or to halt the sale of products deemed unsafe to the public. As the lead state agency for food safety, the Department has continued to make preparations in its laboratories and inspection force to respond to any terrorist attacks and other emergencies related to the food supply. Inspectors have been trained as early responders, and the Food Safety Laboratories have key roles in laboratory response, both at the state and national level.

Food and Meat Inspection

The Division of Food Safety has broad consumer protection responsibilities in the area of food safety. It inspects, permits, and regulates food manufacturing/processing plants, retail food establishments, and similar food businesses in Florida to assure compliance with food wholesomeness and safety standards. During fiscal year 2008-2009, there were 48,419 such businesses in operation in addition to 2,832 water vending machines. A total of 83,231 inspections were conducted, resulting in 3,975 individual food businesses being cited for failure to meet sanitation and food safety standards. Four hundred and nineteen of those firms received administrative complaints and were assessed \$654,700 in fines. Other regulatory actions resulting from surveillance inspections included the issuance of 5,893 warning letters, 25,424 stop-sale orders, and 12,105 stop-use orders. Personnel from the division issued stop-sale orders on an excess of 3.34 million pounds of food products, with 545,742 pounds of this food ordered destroyed as unfit for human consumption.

The division also initiated administrative actions against 406 food establishments that failed to pay the required renewal fee for a Food Establishment Permit. These establishments were open for business, had been inspected, and were in violation because they were operating without a permit. Permit renewal is required annually

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under Florida law. Other activities conducted by food inspectors included visits to establishments for consumer complaint investigations, administrative purposes, sample collection and enforcement actions such as the issuance or removal of stop-sale or stop-use orders. In addition to sanitation and food safety concerns, inspectors were also involved in a variety of other consumer protection activities. Food labels were reviewed for accuracy and compliance with federal and Florida requirements. Ready-to-eat foods were analyzed for a number of dangerous pathogens. Dried fruits were tested for the presence of undeclared sulfites; ground beef was tested to ensure the amount of fat was correctly stated on the label and that poultry or pork products had not been added. Eggs were examined to verify labeled grade and size. Fish were tested to ensure accurate species labeling. Products were tested for “no sugar” or other health claims. Other foods received similar safety and quality checks.



The Division of Food Safety continued the surveillance of herbal dietary supplements containing harmful compounds. Ingestion of products containing ephedrine alkaloids (sometimes called ma huang, *sida cordifolia*, or *pinellia*) has been associated with several deaths, including at least one in Florida. Inspectors from the division maintain surveillance activities for these banned products and issue stop-sale orders for ephedrine-bearing dietary supplements when these supplements are found.

An equally important part of the food inspection program is response to consumer needs and concerns. During fiscal year 2008-2009, over 60,806 telephone calls

were received, in addition to hundreds of calls either forwarded to or received directly by staff. Division staff also responded to 2,210 email inquiries, and numerous facsimiles and letters from consumers as well as permitted firms. There were numerous inquiries regarding food and food handling practices, or expressions of concern about food establishment conditions. More than 2,547 consumer complaints were investigated with the complainant being advised of the findings unless anonymity was requested.

The Division of Food Safety continues to work closely with its federal partners, FDA and USDA, on food safety-related activities. Under a contractual arrangement with the FDA, the division conducted inspections at 533 interstate food manufacturers/processors. The division and the FDA also continued with partnership agreements in several program areas that helped avoid duplication, fostered the sharing of information, and facilitated food safety activities. Under a cooperative agreement with USDA, the division continued to provide egg and poultry grading services for 166,989 tons of eggs and 141,731 tons of poultry. To expedite the terms of these types of agreements, many of the Department's personnel are commissioned by the FDA while others are licensed by the USDA. Other related activities in conjunction with the USDA include periodic inspections for food products illegally imported for sale such as: illegal invasive plants, plants and animals from prohibited disease- and/or pest-infested areas, and meats from areas known to have Foot-and-Mouth Disease, hog cholera, and Bovine Spongiform Encephalopathy (mad cow disease).

In fiscal year 2008-2009 the Division of Food Safety continued to enforce Florida's statutory requirement that the country of origin of any fresh fruit or vegetable produced outside the United States be identified to consumers at retail food stores. This identification is accomplished through labeling of individual items or by signage at the point of sale. During the fiscal year, 96 violations were identified and four administrative fines totaling \$9,800 were collected from establishments where violations were found. These numbers dropped dramatically this past year after the USDA's Country of Origin Labeling regulations went into effect preempting Florida law.

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In the second year since its inception, the Special Inspection Team (SI Team) continues its focus as first responders to various food-related issues. The team focuses on conducting in-depth, independent assessments and tracking sales of illegal products and food products implicated in food-borne illnesses. The team also conducts trace-backs and trace-forwards of food products to determine the origin and destinations of illegal products and products involved in local and nationwide food recalls. In keeping with the division's emphasis on high-risk activities, the team addresses those issues and products of greatest potential harm to the consumer.



As a result of these inspections and joint investigations with local Food Safety district supervisors and inspectors and other various government agencies, the SI Team last year worked 394 cases involving suspicious and illegal products, unpermitted and unapproved sources, and cases in which products were found to have been adulterated. Food products were found violative for unapproved source, temperature abuse, filth and decomposition, unsanitary conditions, and having the potential to be contaminated with *Clostridium botulinum*, *Salmonella* spp., *E. coli* 0157:H7, and *Listeria monocytogenes*. Additionally, a total of 251,574 pounds of suspicious food products were detained for further investigation; of these, 187,837 pounds were voluntarily destroyed by the firms' representatives. In addition to issuing stop sale orders of these food products, the team was also able to

identify and permit 206 businesses operating in violation of Chapter 500, F.S.

The team was a key participant in nationwide recalls involving peanut products from Peanut Corporation of America, products from China found to be contaminated with melamine, and the Nestle USA raw cookie dough recall. As a result of a traceback investigation, the team, in a joint investigation with the FDA, was able to identify the source of a nationwide food outbreak involving peppers from Mexico. In one case jointly conducted with the FDA, the team was able to stop the sale of adulterated dietary supplements found to contain thiomethisosildenafil, an analog of sildenafil, the active ingredient in an FDA-approved drug used for erectile dysfunction. Ultimately, as a result of this investigation, product with an estimated street value of \$2,173,561 was voluntarily destroyed. In another case, smoked white cheese was tested and found to be contaminated with *E. coli* and *Staphylococcus aureus*, resulting in the destruction of 3,000 pounds of this cheese.

The Division of Food Safety responded to requests for assistance from the FDA with national product recalls and effectiveness audits. *Salmonella* in jalapeño and serrano peppers led to two national recalls during which the division provided assistance in ensuring that potentially contaminated food products were removed from store shelves.

During fiscal year 2008-2009, the division tested 111 samples for nutritional label claims, resulting in 12 warning letters for nutritional labeling violations. Appropriate fines were assessed for non-compliance with the law. The Department issued notice-of-violation letters, adverse findings letters and defect action level letters when necessary to assure compliance with the law. The letters covered such issues as excess fat in ground beef; undeclared allergens; high bacterial plate counts in various ready-to-eat (RTE) foods such as sandwiches, salads, cheese, sprouts, sushi, and produce; species adulteration; and general labeling deficiencies. As a result of the division's efforts on specific nutritional claims such as "low carbohydrate," "low fat," "no trans fat," "low sugar," "low salt," etc., many food processors have changed their label or their formulation to comply with labeling requirements. In other situations, products

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have been voluntarily removed from the Florida marketplace for failure to comply with accurate nutritional labeling criteria.

The Division of Food Safety is an active participant in the FDA Voluntary National Retail Food Regulatory Program Standards, and the FDA Manufacturing Food Regulatory Program Standards. Both standards are designed to serve as a guide to food program managers in the design and management of a high-quality regulatory program based on best practice principles. Achieving conformance with the standards requires constant self-assessment and a will to continue improving and creating innovative methods to achieve an excellent food protection program.

The Technical Development and Review Section is made up of an administrator, a staff assistant, and two teams: Training and Standardization, and Hazard Analysis. Training and Standardization consists of eight FDA-certified inspection officers. The team standardizes field personnel, develops and implements programs, and trains and evaluates field staff. Other responsibilities include: addressing the Certified Food Protection Managers Certification requirements, reviewing and revising food program rules, conducting plan reviews, and developing field personnel manuals. This year the Training and Standardization Team standardized 134 field inspection staff in the FDA Standardization and Certification Process, which is based on the Centers for Disease Control and Prevention risk factors. This group also performed 47 quality assurance audits as prescribed by the retail program standards.

The Hazard Analysis Team consists of five members who are trained in specialized processing methods. The team develops programs and guidance documents to assist industry in complying with various food safety regulations. The team also provides vital training to field personnel regarding high-risk foods. In 2009 this team was awarded the Davis Productivity Award for outstanding achievements in state government.

The division continues to be actively involved in the ongoing training and implementation of HACCP programs in the food industry. HACCP is an internationally recognized, science-based, systematic, preventive,

process control program to assure the production of safe food. It complements existing sanitation and good manufacturing practices by preventing, eliminating, or reducing hazards that may occur during any stage of the food production or handling process. Federal and state food regulations require both seafood and fresh juice processors to evaluate their food-handling processes and to develop and follow an HACCP plan if a critical control point is identified in their process. During the 2008-2009 fiscal year, 727 verification HACCP inspections were conducted for the bureau's various HACCP programs. HACCP verification inspections included high-risk products such as seafood, sprouts, fresh juice, sushi, and specialized processing such as preserving food by acidification, smoking, curing, and other similar methods.

The division continues an active intra-agency partnership with the Department's Agricultural Interdiction Stations. Cooperation between the Division of Food Safety and Agricultural Law Enforcement has resulted in enhancement of the safety of food through continuous monitoring and rapid response to problems associated with the transportation of foods throughout the farm-to-table food continuum at every road portal into Florida. Through coordinated activities, thousands of pounds of potentially unsafe food have been destroyed and prevented from entering Florida's food supply, or the vehicles have been sealed and sent back to their state of origin. Communications with the regulatory authorities in other states allow food safety professionals from regulatory agencies in neighboring states to meet such returned vehicles, supervise the destruction of the products, and take appropriate regulatory action against the shipping firm.

The division is actively involved with the Florida Food Safety and Food Defense Advisory Council, which was created to serve as a forum for presenting, investigating, and evaluating issues relevant to the safety and security of the state's food supply and which brings together diverse partners to address common food safety and food defense issues of concern to the citizens of Florida. Recent concerns have focused on food defense and preparation throughout the "farm to fork" continuum in the event a pandemic associated with avian influenza is realized. Other issues have ranged from food-borne

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illness outbreaks to technical advances in accurate and rapid identification of fish to prevent misrepresentation and over-pricing.

The substitution of higher-priced, wild-caught fish with less expensive farm-raised fish continues to be a major concern. The farm-raised fish are quite inexpensive when compared to fish such as grouper or snapper, but the fillets are similar in appearance. This price differential creates a potential for large-scale misbranding of seafood. Advances in technology have enabled the Division of Food Safety to confirm the true identity of some of these seafood items. Testing of imported grouper and snapper for confirmation of species has disclosed misbranded lots. With the help of other state and federal agencies, academia, and industry, the division continues to develop tests and procedures to ensure that the consuming public receives wholesome, safe, and properly identified seafood. When misbranding is verified, the product is placed under stop-sale order and removed from the marketplace.

In fiscal year 2008-2009, the Department processed and issued over 8,315 Certificates of Free Sale. These documents are provided for food products that are used for human consumption and exported to other countries. Businesses receiving such documents must be permitted by the Department and have a current satisfactory sanitation rating. Three hundred and thirty businesses received service for shipment of U.S.-originated food products to some 60 different foreign countries.

The Department oversees bottled water plants, bulk water vendors, and self-vending water machines. The Department coordinates with other agencies to ensure all drinking water processed in Florida continues to meet the federal and state Safe Drinking Water acts. The Department also works closely with the Bottled Water Association on an international level since bottled water is imported from various countries and the imported water must meet all applicable drinking-water standards. Additionally, there are over 2,832 self-vending water machines at convenient locations throughout the state. They offer another source of safe and convenient drinking water to Florida's residents and visitors. The Department uniquely identifies and tracks each machine to make sure it is properly inspected and sampled at established intervals. Self-vending ice units are a new addi-

tion to the food industry in Florida. These units are self-contained modular buildings that produce, store, bag, and vend ice to consumers. The Department has been actively involved in evaluating the design, construction and sanitation procedures to confirm compliance of the units with all sanitation code requirements.

The Division of Food Safety was awarded a Cooperative Agreement from the FDA to develop an infrastructure utilizing rapid response capability to a potential adverse food/feed event. Only five other states across the nation were selected as the first states to pilot this venture. The agreement consists of \$1.5 million over a three-year period. The division is responsible for coordinating efforts with various state agencies to develop a cohesive network to activate a complete response and recovery to adverse incidents involving food and/or feed. The division is working closely with the FDA District Office in Florida with additional training and exercises to be adequately prepared to work seamlessly together to avoid duplication and to function as one unit for timeliness and optimum efficiency. Additionally, the division works closely with other divisions within the Department, such as the Division of Agricultural Environmental Services, the Division of Fruits and Vegetables, and the Office of Agricultural Emergency Preparedness.

The division's mission is to have Subject Matter Experts in various commodities that are specific to Florida. These experts are on call and available 24 hours a day, 7 days a week to respond and travel to an incident with much pre-planning and expert consultations. In addition, as part of this agreement, the division has enrolled in FDA's Manufactured Food Regulatory Response Plan, a program of excellence that covers all manufactured foods in the state. The division will be conducting a self-assessment to develop a baseline in regard to the 10 standards required by the program and will be audited regularly as it works toward achieving each of the standards.

Marketplace survey food samples are taken routinely during the inspection process or if violation of state or federal standards is suspected. Additionally, food inspectors have increased sample surveillance of foods manufactured within the state. In fiscal year 2008-2009, the division's field inspection staff collected 7,206 samples that were sent to the Department's Bureau of

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Food Laboratories for testing and analysis. As a result of laboratory findings, the division has initiated nationwide and statewide recalls of adulterated or contaminated food products. The marketplace and manufactured foods survey sample program is just one more level of consumer protection that the Division of Food Safety offers to Floridians.

During fiscal year 2008-2009 the division continued to work with the Food and Drug Administration in its Tomato Safety Initiative, which is part of a risk-based strategy to reduce food-borne illness in fresh tomatoes by focusing food safety efforts on specific products, practices, and growing areas thought to be potentially problematic. Interdisciplinary teams comprised of individuals from the FDA, the CDC, the University of Florida, the Division of Food Safety, and the Division of Fruit and Vegetables conducted assessments on tomato farms and in tomato packinghouses throughout the state of Florida. The goal of this multi-year initiative is to improve guidance and policy intended to minimize future outbreaks as well as ascertain future tomato safety research, education, and outreach needs. At the request of the tomato industry, the Department, with input from the University of Florida-IFAS and the tomato industry, promulgated the nation's first regulation relating to safe handling practices of tomatoes at the farm and packinghouse. The Division of Food Safety and the Division of Fruit and Vegetables will continue working in a cooperative effort to implement and enforce this regulation to enhance the safety of tomatoes in the state.

On July 14, 2009, Florida Rule Sections 5K-4.027, Standard of Identity, Honey, and 5K-4.028, Adulteration and Misbranding, Honey, became effective, making Florida the first state in the nation to pass state statutes defining honey and what can be present in products labeled as honey. The standard of identity was based on the proposed Codex International Standard for Honey. Other states are currently reviewing the regulations passed by Florida with the goal of passing rules in those states as well that will help make the business of producing, packing, and selling honey fair to all involved.

Chemical Residue Laboratories

One of the Department's major missions is to protect the public by monitoring fruits, vegetables, seafood, honey, and other foods for the presence of unsafe residues of pesticides, antibiotics, and other chemicals and the enforcement of authorized tolerances. The Bureau of Chemical Residue Laboratories analyzes food items for the presence of potential chemical contaminants.

Food samples are collected from farms, packinghouses, processing facilities, and elsewhere in the distribution chain. All foods grown in Florida, and those brought into the state to be offered for sale, are subject to unannounced collection and analytical testing to assure adherence to the standards for allowable levels of pesticide or other chemicals, freedom from contamination or illegally used chemicals and proper representation in labeling. The Department also provides pesticide residue data to federal agencies for use in making dietary risk assessments and for other purposes. During fiscal year 2008-2009, the Department's laboratories conducted some 429,322 different determinations for residues of specifically targeted pesticides and other chemicals on 3,140 food product samples.

Pesticide Residues

A primary focus of the Chemical Residue Program is the analysis of pesticide residues in fresh fruits and vegetables. The Department's regulatory program is one of the most comprehensive monitoring and enforcement programs in the nation and provides the residents of Florida with valuable information concerning the safety of the food supply. In addition to assuring the proper use of pesticides by Florida growers, a thorough testing program enhances the status of Florida-grown produce in nationwide and international markets.

Florida is an important producer of fresh fruits and vegetables for the nation. Samples are selected for regulatory surveillance based on several factors. An emphasis is put on Florida-grown commodities. Statistics on Florida-grown produce, as well as national consumption patterns and previous history of pesticide residue findings, are used to develop sampling plans that will target products most likely to contain illegal residues.

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During the past year, the Department conducted surveys of tomato, strawberry, pepper, cucumber, potato, corn, watermelon, cabbage, squash, green bean, blueberry, avocado, and eggplant producers early in the growing seasons in order to assure proper pesticide use. In support of Florida-grown citrus, 95 samples were analyzed, including 54 oranges, 29 grapefruit, 10 tangerines, and two tangelos. An additional 57 citrus samples from other states and countries were also analyzed, including 15 oranges, five grapefruit, 10 lemons, 20 limes, four tangerines, and three tangelos. Grapefruit are exported to Japan and growers must meet strict pesticide regulations. Data provided by the Department can help provide assurance of the safety of Florida produce and aid its acceptance into foreign markets.

During fiscal year 2008-2009, the Chemical Residue Laboratories analyzed 1,589 fresh fruit and vegetable samples for pesticide residues in its regulatory surveillance monitoring program, 40 seafood samples for melamine, and 80 bottled water plus consumer complaint samples for organic contaminants. Products sampled in the regulatory program were produced in Florida (895, or 56.3 percent) or 22 other U.S. states (360, or 22.7 percent), or were imported foods from 27 different countries destined for Florida markets (334, or 21 percent). Pesticide residue violations in fresh fruits and vegetables led to 17 incidents of food adulteration in fiscal year 2008-2009. Whenever possible, field personnel traced back product to its origin and took additional samples. Of the fresh fruits and vegetables analyzed in this regulatory surveillance program, 1.07 percent (17 of 1,589) exceeded established tolerance levels or contained pesticides not approved for use on a commodity. However, in imported produce tested, 2.4 percent (8 of 334) was identified with illegal residues, while in U.S. produce only 0.72 percent (9 of 1,255) was in violation. By agreement with the FDA, Florida's pesticide surveillance focus is on domestic products while the FDA targets imports. A strong FDA partnership with Florida provides information and resources needed to prevent violative product from being distributed.

More than 165 pesticides are screened in the regulatory program. New registrations or pesticides of particular interest in Florida crops are routinely added to the Department's analytical capability. The Department continues to support Florida's citrus industry by continually

expanding its pesticide analysis screen to include agrichemicals with special-use exemptions as well as those of particular interest for citrus export. The Department also focused on enforcement of pesticide crisis exemptions which were granted to Florida growers. Of the active ingredients with exemptions, all of the fruit, vegetable, and honey exemptions are monitored, including novaluron in strawberries. Additional special surveys to monitor crisis exemptions for other commodities/pesticide combinations will be continued.

The Department continues to be active in the USDA Pesticide Data Program (PDP), an internationally recognized program that focuses on providing comprehensive data on pesticide residues for the purpose of risk assessment. Under contract with the USDA, 1,428 additional samples of green beans, kale, collards, spinach, oranges, and sweet potatoes were analyzed as a part of this program, which targets very low part-per-billion levels of pesticides in commodities most frequently consumed by infants and children. Samples include both domestic and imported products. Commodities and sampling sites are chosen to statistically represent the product available for consumption throughout the United States.

Food Laboratories

The Bureau of Food Laboratories uses chemical, microbiological, molecular, and physical methods to analyze foods processed or sold in Florida. These analyses help to ensure a safe and wholesome food supply by verifying the absence of adulterants, especially microbial food pathogens and food allergens, by verifying conformance with standards of safety and quality, and by ensuring accurate representation in labeling and nutritional claims. Emphasis is placed on current and emerging food safety issues, such as microbiological contamination, unapproved food components, filth, chemical and heavy-metal contaminants, new food and food-packaging technology, dietary supplements, and other label and nutritional claims and natural toxicants. The Bureau of Food Laboratories is also a national leader in preparations to respond in the event of a terrorist incident or emergency event involving the food supply.

Testing of food products using molecular methods, especially nucleic acid analyses based on the polymerase chain reaction (PCR), continued expansion during the year and now includes testing for *Escherichia coli*

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O157:H7, Shigella, and Salmonella. Molecular methods for analysis of *Listeria monocytogenes* and *Vibrio parahaemolyticus* and *Vibrio cholerae* in shellfish are undergoing validation or verification. Testing for specific toxin-producing genes in *E. coli* continued for the USDA Microbiological Data Program (MDP).

DNA fingerprinting, or pulsed field gel electrophoresis (PFGE), is being performed by the Food Laboratories for quality assurance, as well as for typing when specific organisms such as *Listeria monocytogenes* or Salmonella are recovered from a food product. The patterns produced by the PFGE are submitted for inclusion in the national PulseNet database. This data can then be used by epidemiologists in search of the causative agent for outbreaks. The staff is certified in PFGE by the Centers for Disease Control and Prevention (CDC).

Food Analyses

During fiscal year 2008-2009, the Department performed 47,478 analyses on 9,516 samples. The majority of samples (7,206) were received under Division of Food Safety or other Department regulatory inspection programs. In addition, 1,470 samples were received from the joint state and USDA Microbiological Data Program (MDP) and 840 were other special samples. Out of 7,206 regulatory samples, 6,651 samples, representing 92.3 percent of state program samples, were found to be in compliance with all applicable food safety requirements. A summary of regulatory pathogen analyses results is shown below:

Summary of Regulatory Pathogen Analyses

Organism	Adulterated Samples
<i>Listeria monocytogenes</i>	45 of 2,628
Salmonella	7 of 2,244
<i>E. coli</i> (generic)	113 of 2,029
<i>E. coli</i> O157:H7	0 of 621
<i>Staphylococcus aureus</i>	26 of 2,294

Food safety issues remain a major emphasis of the analytical program. With the continued identification of food-borne illness outbreaks, increased monitoring for pathogens in ready-to-eat food is necessary. Microbiological pathogen analyses focused on Salmonella, *Listeria monocytogenes*, *Staphylococcus aureus*, *E. coli* O157:H7, and generic *E. coli*. Targeted products for these analy-

ses included ready-to-eat produce, processed meats, fresh cut vegetables, sprouts, prepared salads, cheese, smoked fish, spices, and sandwiches. As a result of past outbreaks, the Department continues to monitor fresh-squeezed citrus juices. Additionally, analyses of bottled and vended water and ice for adulteration by either microbiological or chemical contaminants represented a significant component of state surveillance programs.

Summary of Water/Ice Analyses (Microbiological)

Sample type	Adulterated/Misbranded
Vended and Bottled Water	13 of 684
Ice	26 of 513

In its ninth year, the USDA MDP, which is designed to determine the frequency that potential pathogens are detected in fresh produce, required Florida, Colorado, Michigan, New York, Ohio, Texas, Washington, and Wisconsin to systematically monitor fresh produce commodities by testing for Salmonella, pathogenic *E. coli* (STEC/ETEC), and *E. coli* O157:H7. Shigella was tested for in 2008 and then discontinued in 2009. One thousand four hundred and seventy (1,470) samples were analyzed by the Department this year. Commodities tested in 2008-2009 include alfalfa sprouts, peanut butter, cantaloupe, lettuce (loose and bagged), spinach, hot peppers, green onions, and tomatoes. Further expansion of this program is expected, in types of organisms, commodities tested, numbers of samples, and technology used.

In August 2002, the Bureau of Food Laboratories was certified by the FDA for microbiological testing of shellfish in support of the National Shellfish Sanitation Program (NSSP). The laboratory was re-inspected in spring of 2007 and is maintaining competency for this certification.

Other areas of emphasis in public health and consumer protection include monitoring juices, honey, syrups, and vanilla for fraudulent formulations or adulteration; ground meats for fat claims and species identification; candy for lead; and candy, sodas, and bakery products for artificial colors. Bakery products are also monitored for insect filth and rodent contamination, as well as nutritional claims. Dietary supplements continue to be monitored for the presence of ephedra alkaloids.

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Unsafe or misrepresented products are removed from sale by the Bureau of Food and Meat Inspection.

Florida's fresh seafood is monitored by the Department in response to concerns regarding species substitution, decomposition (histamine in scombrotoxic species and indole in shrimp), and safe levels of mercury. Fish tested by the Department include tuna, grouper, mahi-mahi, red snapper, salmon, swordfish, mackerel, blue marlin, amberjack, and catfish. A DNA-sequencing method for species authentication was validated and is in use; updating to an FDA method will occur in the next fiscal year.

The Department continues its extensive surveillance of products making nutritional claims such as "low carbohydrate" and "fat free." Products making "sugar free" claims have been under particular scrutiny due to their potential impact on diabetics and other consumers. Monitoring of undeclared food allergens continues with particular focus on milk, egg, and peanut allergens. With the passing of the Federal Food Allergen Labeling and Consumer Protection Act, the Department continues to ensure appropriate and understandable food allergen labeling. The requirement for trans-fat labeling was effective beginning last year. The Department has extensively surveyed the market for accuracy in trans-fat declarations, as well as correctness in labeling.

The Molecular Laboratory also modified and tested food sample preparation methods for the national Food Emergency Response Network (FERN) protocols for real-time PCR and conventional PCR detection for certain pathogens on food samples.

ISO 17025 Accreditation

On May 21, 2007, both laboratory bureaus attained American Association for Laboratory Accreditation (A2LA) accreditation to the ISO/IEC 17025 standard, General Requirements for the Competence of Testing and Calibration Laboratories, for the specific tests listed in certificates 2534.01, 2534.02, and 2534.03. On May 14, 2009, A2LA renewed the accreditation of both laboratories following a rigorous five-day onsite audit by A2LA assessors. Renewal of accreditation is required every two years and ensures that the laboratories continuously implement and improve their policies, procedures, and testing activities. The ISO/IEC 17025 standard is

recognized internationally as the standard for assessing the quality and competence of analytical testing activities, and the two bureaus attained accreditation after undergoing a rigorous four-day audit by A2LA assessors.

Accreditation to this standard provides the Department with international credibility, showing that analytical data produced by the two bureaus meets rigorous standards for quality and laboratory competence. This accomplishment came after a lengthy, intense process of developing and implementing policies and procedures governing virtually all aspects of laboratory operations, a process that required the dedication of considerable resources, a high level of commitment by all laboratory staff, and the continued backing and support of senior management. Ongoing work now will include auditing of the system, corrective actions, and preventive actions for improvement, all combining to ensure the results generated by the laboratories meet the Department's needs.

Information Technology

The Food and Chemical Residue Laboratories, along with division staff, have been planning for a new Laboratory Information System. With this system, better integration of laboratory testing information, quality assurance parameters, and reporting is anticipated to be achieved using technology to move the division's laboratories to another level of quality and data integrity.

National Databases

Both the Food and Chemical Residue Laboratories continue to provide data to the FDA-supported eLEXNET national data system, which allows real-time exchange of information concerning potential or suspected food supply problems. Staff members use eLEXNET for reporting results for FERN projects. Data is exported from the laboratories database to the eLEXNET system.

Results from PFGE testing on contaminated food product bacterial isolates are being submitted into the national PulseNet database, to allow for comparison of food product isolates with patterns from human outbreaks.

An application was also developed which provides direct export of data collected for the Pesticide Data Program from the laboratories database to the PDP Oracle data-

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base in Washington, D.C.

Education and Training

Educational opportunities for laboratory personnel were emphasized in order to remain on the leading edge of science and technology. Department scientists have been active on several national committees, and attended training workshops in order to update knowledge in the areas of analytical chemistry, microbiology, and new technologies. Staff members also participated as trainers for national training programs for FERN.

Responding to Food Emergencies and Terrorism

The Food and Chemical Residue Laboratories continue their initiatives to enhance capability to respond to a terrorism incident involving the food supply. Both laboratories are members of the FERN and participate in federal cooperative agreements both in microbiology and chemistry to enhance capabilities and participate in national surveillance assignments. FERN was formed to respond specifically to national food emergencies and the threat of terrorism in foods. In addition to biological capabilities, the laboratories have expanded counterterrorism capabilities to include testing foods for chemical agents. The FERN laboratories were activated in late June 2008 after the Salmonella outbreak associated with fresh produce continued even though warnings were put out for one commodity. Because of the activation, state and federal laboratories found a culprit in jalapeño peppers, and in addition, found other Salmonella contamination associated with imported produce. The Food Laboratory conducted testing to assure the safety of Florida tomatoes and to detect contaminated produce to ensure the safety of the food supply.

The Division of Food Safety and the laboratories maintain strong partnerships with other state and federal agencies, including the Florida DOH, FDA, USDA, and the CDC. The Food Safety Laboratories, together with other state agencies, have developed a statewide laboratory response plan to assure a coordinated and effective response to emergencies. Representatives of the Department's and DOH's laboratories meet quarterly to enhance the abilities of both agencies to respond in the event of an emergency.

The Food Laboratories have undergone inspections by the FDA, CDC, and USDA regarding the capability to

safely handle and securely protect highly dangerous select agents and toxins, and the laboratories have satisfied all requirements. This has allowed the Department to be one of the few state agricultural departments to have a food laboratory as a member of the national Laboratory Response Network (LRN) for public health protection. A member of the laboratory staff participates on an Operational Work Group for the LRN.

Accomplishments in this domestic/food security initiative include operation of an active Biosafety Level-3 laboratory, the acquisition and use of sophisticated analytical equipment and substantial ongoing training of staff in procedures for processing and analyzing samples suspected of containing terrorist threat agents. Staff attended training on FERN and LRN protocols at FDA and USDA laboratories, technical meetings with other laboratories, and workshops and teleconferences. Laboratory staff gave lectures and presentations on issues in domestic/food security at conferences throughout Florida. Food Laboratories staff have been instructors at FERN workshops on real-time PCR as well as microbiological analysis for potential threat agents.

Previously renovated laboratory space in both the Chemical Residue and Food Laboratories provides areas for safe and secure preparation and analysis of foods for presence of hazardous chemical agents. The renovated space includes separate chemical extraction areas with chemical fume hoods for both organic and metals sample preparation. Laboratory space for eight instrument bays is equipped with overhead ventilation hoods and house gas. Liquid mass spectrometers and other instrumentation are dedicated to counterterrorism work in the Chemical Residue laboratories. Upgrades to computer capabilities and electricity, purified water, and analytical gas supplies have been added to support this new technology.

Through FERN cooperative agreements, both the Food and Chemical Residue Laboratories are performing extensive testing and verification of FERN methods and protocols to be used in the event of national food emergencies. Funds and instrumentation received under the cooperative agreements have enabled the laboratories to develop complex microbiology and molecular analysis, as well as toxin screening techniques utilizing gas, liquid, and inductively coupled mass spectrophotometry.

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FERN methods have been developed and validated in several high-risk commodities. Instrument and method training for analysts, as well as participation in FERN surveillance exercises and proficiency check samples, has significantly improved the laboratories' ability to detect agents of concern in complicated food matrices. The collaborative contributions of these two state food laboratories to national food security exercises are making Florida a national leader in food safety and security. The laboratories participated in FDA or FERN counterterrorism surveillance exercises and several FERN and LRN proficiencies during 2008-2009.

Division of Dairy Industry

The Department's Division of Dairy Industry ensures that dairy products purchased by Florida consumers are wholesome, produced under sanitary conditions, and correctly labeled. The division regulates the production, transporting, processing, distribution, and labeling of milk and milk products. It establishes standards for these products, whether they originate in Florida or other states.

The division issues permits and conducts inspections for Florida dairy facilities. As of June 30, 2009, these facilities included:

143	Dairy Farms
18	Milk Processing Plants
8	Cheese Plants
67	Frozen Dessert Manufacturers
16	Single-service Milk Container Manufacturers
31	Milk Distribution Depots
7	Milk Receiving, Transfer, and Wash Stations
15	Milk Hauling Services

In addition to its inspection program, the division collects and tests samples from dairy farms and processing plants for compliance with established product quality standards. These samples are collected by field inspectors and tested in a division laboratory for excessive bacteria and somatic cells and for the presence of antibiotics, added water, and other impurities.

The programs administered by the Division of Dairy Industry are part of a uniform national dairy sanitation program outlined in the Pasteurized Milk Ordinance

(PMO) published by the U.S. Food and Drug Administration (FDA). Likewise, most of the dairy product quality standards enforced by the division are part of the PMO or the Code of Federal Regulations. As in all states, both the PMO and the relevant sections of the Code of Federal Regulation have been adopted in state statute or rule.



The fact that all states have adopted uniform regulations makes it possible to ship dairy products from state to state with a minimum amount of interstate regulatory interference. The interstate shipment of dairy products is coordinated through the Interstate Milk Shippers Conference (IMS), an organization that includes representation from FDA, the dairy producing and processing industry, and all state dairy regulatory agencies.

An IMS Rating Officer routinely performs surveys for the purpose of determining compliance with the PMO. In addition, the FDA will conduct periodic check ratings to determine if both the industry and state regulatory agency are in compliance with the requirements in the PMO. A state that fails its FDA inspection can be denied the right to ship Grade A milk across state lines. During fiscal year 2008-2009, IMS Rating Officers performed six plant surveys, 10 single-service containers manufacturer audits, and nine farm group surveys, involving 106 dairy farm inspections. FDA conducted three plant check ratings, two single-service container manufacturer audits, and one farm group check ratings, involving one farm.

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The Florida Dairy Industry

Florida dairy farms are large, milking an average of about 840 cows each. In spite of the hot, humid climate, these cows average about 17,200 pounds of milk per year or about five gallons per day per cow. Even though the state's 120,000 dairy cows rank it first in the Southeast and 17th nationally, Florida still imports approximately 30 percent of its milk and the proportion of imported milk is growing. Florida's 18 Grade A milk processors include four Dean Food plants, two Publix plants, one Winn-Dixie plant, and two plants owned by National Dairy Holdings Group, LP.

Dairy Inspections

The division's 12 field inspectors are stationed from Miami to Pensacola. They make regular visits to dairy farms and processing plants to inspect, consult, and collect samples. During the past year, dairy inspectors performed 1,643 inspections at dairy farms and plants in Florida. They also collected 8,273 samples of milk and milk products. They made 1,517 inspections of milk transport tankers and bulk milk haulers.

Monitoring Antibiotics in Milk

The industry has established a rigorous program to monitor milk for contamination with residues of antibiotics commonly used to treat cows on dairy farms. During the 2008-2009 fiscal year, 58,921 transport tankers, representing more than 2.7 billion pounds of milk, were checked for antibiotics in Florida. Only five (one in 11,784) of these tankers were found to contain traces of antibiotics; all five loads were dumped. Nationally, about one in 3,512 tankers of milk is found to have antibiotic contamination. These statistics show that Florida dairymen do an exceptional job of preventing antibiotic residues in their milk.

Division of Aquaculture

Florida has the most diverse number and type of animals and plants in production and production systems of any state in the country and ranks seventh in overall farm-gate sales. Floridians have also been aquacultural innovators dating back to the establishment of the first alligator farm in 1893, the planting of dried oyster cultch to support oyster farming in 1889, the shipping of farm-raised tropical fish and aquatic plants from Miami by railroad during the 1920s, experimental hard

clam farming in 1958, and the first global air shipment of tropical fish in the mid-1960s.



Innovation continues today with research-and-development farms that are proving the feasibility of culturing microalgae for biofuels; state-of-the-art, indoor production systems producing sturgeon meat and caviar; and ornamental fish farms culturing the only commercially sold transgenic animal in the United States and a puffer fish with the shortest genome of any vertebrate sequenced to date (a perfect candidate for genetic research).

The Division of Aquaculture was created in 1999 by the Florida Legislature and is responsible for implementing the provisions of Chapter 597, F.S., through six programs: aquaculture certification, leasing of sovereignty submerged land for aquacultural purposes, shellfish resource development, shellfish processing plant certification, shellfish harvesting area management, and technical support. The Act also provides for an advisory council to the Commissioner of Agriculture, the Aquaculture Review Council, and a state agency council to resolve aquacultural issues. Information about the division's programs is available at www.FloridaAquaculture.com.

Aquaculture Certification Program

An Aquaculture Certificate of Registration was established by law to recognize the culture of aquatic species

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(fish, plants, reptiles, mollusks, and crustaceans). Aquaculture facilities are required to be certified annually and to attest that they will comply with Aquaculture Best Management Practices provided in Chapter 5L-3, Florida Administrative Code. The Aquaculture Certificate of Registration is used to identify aquaculture producers as members of Florida's agricultural community and to identify aquacultural products produced in the state. Aquaculture Best Management Practices encompass farm location, design, animal and plant species, operation, and management to achieve Florida's environmental conservation and preservation goals. Farm inspections are conducted to ensure compliance with the Aquaculture Best Management Practices and the responsibilities assumed by the farmer when accepting the Aquaculture Certificate of Registration.



The division certified 922 aquaculture facilities during fiscal year 2008-2009. Forty-three percent of certified farms produce shellfish, 24 percent produce ornamental fish and plants, and 19 percent produce food fish, with the remainder producing live rock, alligators, and bait. Certified farms are found in 62 of the state's 67 counties, with the highest number of certified farms occurring in Levy County (21 percent). Hillsborough County is next with 10 percent, followed by Brevard, Dade, Dixie, Franklin, Indian River, Lee, Polk, and Volusia counties with 4 to 5 percent each.

Sovereignty Submerged Lands Leasing Program

The division is responsible for the Aquaculture Lease Program under the provisions in Chapter 253, F.S. Currently, the Department administers 533 aquaculture leases containing about 1,217 acres and 71 shellfish

leases containing about 1,184 acres. Aquaculture leases are located in Brevard, Charlotte, Collier, Dixie, Franklin, Indian River, Lee, Levy, Manatee, Monroe, Palm Beach, Pinellas, St. Johns, and Volusia counties.

In response to its statutory mandate, the division identifies tracts of submerged lands throughout the state that are suitable for aquacultural development. Twenty-one Aquaculture Use Areas have been identified by the Department and authorized by the Governor and Cabinet in nine coastal counties: Brevard, Charlotte, Collier, Dixie, Franklin, Indian River, Lee, Levy, and Volusia.

Oyster Culture and Shellfish Resource Development Program

Under the mandate that began in 1913 to improve, enlarge, and conserve the oyster and clam resources of the state, the division is actively engaged in enhancing shellfish resources and restoring oyster reefs on public submerged lands. During fiscal year 2008-2009, the division collected 117,336 bushels of processed oyster shell from processors in Franklin County and 3,216 bushels from processors in Levy County. In addition to planting cultch, the division rebuilt a small barge to carry out oyster reef creation or restoration in very shallow inshore waters or waters that could not be accessed by the division's large barge and push boat.

Oyster resource development projects are conducted on an annual basis in cooperation with local oystermen's associations in four coastal counties. A total of 255,310 bushels of live oysters was replanted on public reefs in Franklin, Wakulla, Dixie, and Levy counties.

Restoring Public Oyster Reefs

The division is involved in a comprehensive multi-county project to restore oyster reefs that were damaged by recent hurricanes. During fiscal year 2008-2009, 1,099.2 tons of fossilized shell was collected and 142,080 bushels of shell planted. This project is designed to enhance oyster production, facilitate recovery of the oyster business, and provide significant resource restoration benefits. The project promotes the development of self-sustaining reef communities, which, in turn, perform ecological services that contribute to fisheries habitat, ecosystem stability, nutrient cycling, and improved water quality. Functioning oyster reefs are recognized as an es-

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sential component in stabilizing and sustaining ecological relationships in almost all Gulf estuarine ecosystems.



Shellfish Harvesting Area Classification and Management Program

This program seeks to classify and manage Florida coastal waters for maximum use of shellfish resource, protection of public health, and promotion of a healthy coastal environment. The program is audited each year by the U.S. Food and Drug Administration to ensure compliance with the provisions of the National Shellfish Sanitation Program.

A total of 39 shellfish harvesting areas are currently classified and managed statewide. During fiscal year 2008-2009, the required annual update reports and triennial reappraisal reports were completed for all 39 shellfish harvesting areas. The data and reports support current classification and management for all shellfish harvesting areas. During fiscal year 2008-2009, a total of 669 sampling excursions were conducted to collect and analyze 13,392 water samples for fecal coliform bacteria. There were 405 closures and re-openings of shellfish harvesting areas. Shellfish harvesting area maps, and their harvest status (open or closed), are posted on the division's web site.

Shellfish Processing Facility Program

This program seeks to ensure wholesome shellfish products through inspection, education, and enforcement of state regulations and national guidelines. The program is audited by the U.S. Food and Drug Administration to ensure compliance with the provisions of the National

Shellfish Sanitation Program. A total of 105 Shellfish Processing Plant Certifications were issued during fiscal year 2008-2009. A total of 401 regulatory processing plant inspections were conducted. Based on fiscal year 2008-2009 inspection results, 45 warning letters and 11 settlement agreement letters were issued. Action was taken to destroy shellfish products when they were found to be adulterated, contaminated, unwholesome, mislabeled, or exceeding the product shelf life.

The division assisted Florida oyster processors in developing and implementing post-harvest processing (PHP) technologies to reduce human health risks associated with naturally occurring *Vibrio* bacteria in shellstock oysters. Four Florida firms are currently validated for freezing and frozen storage, with two actually doing so, and another Florida firm is gearing up for freezing validation studies. The division has facilitated the adoption of PHP technologies by: (1) updating regulations to incorporate these new technologies; (2) working with research laboratories that conduct the validation studies; and (3) working with PHP processors on appropriate PHP labeling and required recordkeeping.

Technical Support Programs

The division provides substantial technical and administrative support for a variety of initiatives to support aquaculture development and conserve Florida's natural resources:

- Creating or revising Aquaculture Best Management Practices through the formation of technical advisory committees composed of producer, agency, extension, and environmental representatives that write initial drafts that are then subject to the public administrative rule development process.
- Completing theoretical and applied research to create and release sterile invasive species (e.g., tilapia and apple snail) that will lead to population collapse in natural systems.
- Supporting the Statewide Clam Industry Task Force that addresses issues of interest to clam farmers on the Gulf and Atlantic coasts.
- Administering industry development project grants to

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provide answers for production, technical, or economic challenges that are recommended by the Aquaculture Review Council to the Commissioner of Agriculture for funding through legislative appropriations.

- Organizing and conducting workshops, seminars, and problem-solving activities to resolve environmental issues or provide information to Florida farmers. For example, two risk analyses were completed concerning Florida's marine ornamental trade and the stocking of sterile grass carp to improve agency and farmer efforts to prevent the establishment of nonnative species in Florida.
- Producing the Florida Aquaculture Plan in concert with the Aquaculture Review Council as a planning document to coordinate the efforts of state agencies, the public and private research community, the Legislature, and other interested parties.
- Producing "Florida Aquaculture," a quarterly newsletter for all certified aquaculturists, shellfish processing houses, and other interested parties to communicate timely technical information, state and federal regulatory updates, grants and aids programs, or event announcements.
- Producing technical bulletins to provide in-depth information on topics like red tide, red tide regulations, cultured hard clam handling and harvesting, shellfish net coatings, aquatic preserves, apple snails, hurricane preparedness, shellfish harvest area management, and the Interstate Shellfish Sanitation Conference.
- Aquaculture Review Council projects, environmental analyses, the Florida Aquaculture Plan, "Florida Aquaculture" newsletter, and technical bulletins are posted to the division's web site, and free copies are available by contacting the division at (850) 488-4033.

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Division of Agricultural Environmental Services

Scientific Evaluation Section

The Scientific Evaluation Section (SES) in the Bureau of Pesticides is staffed by scientists with expertise in the disciplines of chemistry, toxicology, ecological and human health risk assessment, environmental modeling, geology, endangered species biology, and soil science. The section's primary task is to use sound science to conduct environmental fate and health risk assessments on pesticide products and to provide technical support to the other bureaus in the Division of Agricultural Environmental Services. The section also works with the U.S. Environmental Protection Agency (EPA), sister government agencies, pesticide registrants, stakeholder groups, and the public on matters related to the regulation of pesticides to protect human and ecological health (including endangered species), and the quality of surface water, ground water, and air.

Registration Reviews

During fiscal year 2008-2009, SES conducted environmental fate and effects assessments on 39 active ingredients in 55 product brands seeking registration in Florida. Although these products were previously reviewed by the EPA, the section's assessments consider many unique Florida conditions (e.g., excessive rainfall, permeable soils, and multiple growing seasons) that may not have been covered in detail in the federal assessment. SES recommended acceptance for almost all registration requests after determining that the products would introduce no unacceptable risk to humans or non-target species when used according to the product label. In some cases, SES recommended that additional mitigation measures be applied via revision of the product label to address Florida-specific concerns. In one case, SES recommended denial of the registration for two formulations of a rodenticide, difenacoum, due to concerns of unacceptable risk to wildlife. The decision for denial was upheld in an informal administrative hearing.

Of greatest significance this fiscal year was the section's role in reviewing and ultimately approving four Special Local Need registrations (diflubenzuron, fenpropathrin, spinetoram, and zeta-cypermethrin) for low-volume

applications to control the insect pest that vectors citrus greening. SES worked closely with the Registration Section, the citrus industry, the University of Florida IFAS and the registrant to assess the critical elements (droplet size, equipment, application volume, etc.) of this unique application technique and to understand how pesticide drift and, ultimately, risks could be impacted.

Reregistration Eligibility Decision Document on the Organic Arsenical Herbicides

During this last year, the EPA neared finalization of its reregistration decision on the organic arsenical herbicides. The agency is canceling all uses of DSMA, CAMA, and cacodylic acid by 2009 in Florida. By the end of 2010 only MSMA use on cotton will remain. In addition, EPA is mandating a setback from water bodies to mitigate risks through surface water, which was the driver for this decision. The Department had been very active throughout this process and submitted comments to the EPA on multiple occasions supporting the EPA's decision and expressing concern over the risk to Florida's particularly vulnerable ground water. The Department remains in contact with the EPA to ensure that the concerns of the Department are considered in the phase-out of these products.

Ground Water Protection

Lake Wales Ridge Monitoring Network

Staff from the Department and the Southwest Florida Water Management District conducted the 38th through 41st quarterly sampling events of the 30 wells in the network. Each monitoring well is situated in the region's shallow aquifer, which is overlain by sandy soils that are extremely prone to leaching. The analytes detected during these four events are consistent with those detected in prior sampling events and are reflective of pesticides used in citrus production in the area. This year staff began rotating in the sampling of eight additional wells not located in citrus areas to assess the potential impacts of other land-uses on ground water quality.

The network continues to provide valuable information on the environmental fate and persistence of citrus-agrichemicals in one of the most vulnerable regions of the nation. In addition, the network serves as an early warning system for potential potable water threats. Details are available at http://fisc.er.usgs.gov/Lake_Wales_Ridge/index.html.

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Thiamethoxam Retrospective Ground Water Study

In June 2005 Syngenta Crop Protection initiated a retrospective ground water study of the insecticide thiamethoxam. The study was conducted at 12 vegetable fields located in Hamilton, Suwannee, and Manatee counties with each field instrumented with a shallow and a deep ground water monitoring well. The study reported relatively consistent low-level detections of thiamethoxam and its degradates. The residues were at levels well below those posing a risk to humans. The Department received and reviewed the final report for this study which reflects almost three years of data collection and interpretation. The Department accepted the report and the study was closed.

1,3-Dichloropropene Ground Water Study

During this fiscal year, Dow AgroSciences and its consultant continued to evaluate the long-term risks that the soil fumigant Curfew (1,3-dichloropropene) may pose to ground water quality. The registrant's study is being conducted at the Department's request to determine whether the label-mandated 100-foot setback from potable wells is sufficient to protect drinking water resources. The site was instrumented with monitoring wells after site characterization was complete. The initial sampling event occurred in the fall of 2007 and quarterly ground water sampling is continuing. The Department has received progress reports which contained data on site instrumentation and the first seven sampling events. SES will continue to track and evaluate the ongoing work.

In addition to the ground water study, SES and staff from the Bureau of Compliance Monitoring have been involved in the review of an existing Special Local Need label for use of 1,3-dichloropropene on golf course and sports turf. The review focuses on provisions for ground water protection and on measures to address prevention of bystander exposure to airborne residues. A number of label changes are being considered for final submission to the EPA.

Iodomethane Retrospective Ground Water Study

As a condition for the Florida registration of the soil fumigant iodomethane, the registrant Arysta LifeScience has agreed to conduct a small-scale study to monitor air and ground water quality at sites in Florida. Staff of SES and the Florida Department of Environmental Protection have reviewed and commented on the registrant's

final draft protocol for the ground water and air sampling study. Site identification, characterization, and instrumentation have begun, and the study is scheduled to begin in early fall of 2009. The Department will continue to work with the registrant to ensure that this study produces meaningful data to enhance its assessment of this fumigant.

Surface Water Protection

Endosulfan in South Florida

In the summer of 2008, representatives from the Department met with staff from the National Park Service (NPS) and other stakeholders regarding detections of endosulfan in canals on the eastern border of Everglades National Park. The NPS is concerned that endosulfan and its degradate may impact aquatic organisms when water from the C-111 canal, which runs adjacent to vegetable production, enters the park. Although detections of endosulfan (a combination of alpha and beta endosulfan) in local surface water have rarely exceeded surface water standards in the past eight years, the chemical degradate, endosulfan sulfate continues to be detected at levels greater than the parent compound. This is important since the EPA Office of Pesticide Programs now considers the sulfate degradate as equivalent in toxicity to the alpha and beta parents. Moreover, the NPS and scientists at Florida International University recently reported detections of endosulfan in fish collected both inside and near the park and they have raised concerns about potential impacts to fish-eating organisms such as wading birds. The park subsequently submitted a letter of significant concerns to the EPA regarding potential acute and chronic ecological risks associated with exposure to the product. At this point, the EPA has not made a regulatory determination regarding the future of endosulfan, but one is anticipated in the coming year.

Water Quality Issues Involving Copper

Several segments of surface water in the Florida recently have been determined to be impaired due to the presence of elevated concentrations of copper. Such impaired water bodies are destined for further review by the Florida Department of Environmental Protection to establish total maximum daily loads (TMDLs), a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards. Copper-based pesticides are among a number of potential man-made sources of copper that may

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be contributing to detections in Florida surface water. SES plans to work with others in the Department, water quality agencies, and stakeholders when TMDLs are being considered for copper-impaired waters.

NPDES Decision from the 6th Circuit Court of Appeals

In January 2009, the United States 6th Circuit Court of Appeals vacated the EPA's 2006 rule that exempted pesticide applicators that make applications to, on, or near water from having to obtain a National Pollutant Discharge Elimination System (NPDES) permit. The EPA argued that pesticides sprayed on water are not pollutants and consequently these applications would not be subject to the NPDES permitting program. The court did not agree with EPA's interpretation of the Clean Water Act (CWA) and found that pesticide residues constitute point source discharges. Under this decision, persons applying pesticides to, on, or near water bodies would need to obtain an NPDES permit prior to use (the full scope of applications potentially subject to the permitting requirement has not been established). The permitting requirement is expected to significantly affect pesticide applicators, pesticide regulators, and NPDES permitting agencies, at a minimum. In April, the court granted a two-year stay on this mandate to allow federal and state programs to prepare permitting programs. Since the court's decision, the Division of Agricultural Environmental Services has worked at both the national and state level to promote a constructive dialogue on how to move forward with a permitting system that protects water resources while minimizing disruptions to vital pest control operations. In Florida the division is working closely with the Office of Agricultural Water Policy, the Florida Department of Environmental Protection, and the Florida Fish and Wildlife Conservation Commission to develop a cooperative approach.

Endangered Species Protection Program

Subcommittee on Imperiled Species

The Subcommittee on Imperiled Species (formally known as the Miami Blue Butterfly Subcommittee) was created by the Florida Coordinating Council on Mosquito Control (FCCMC) to provide recommendations to the council regarding conduct of mosquito control that will: 1) allow for management and recovery of imperiled

species by state and federal agencies and 2) allow the Mosquito Control Districts to continue to provide mosquito control as required under Chapter 388, F.S. The subcommittee meets at least semiannually. Two meetings occurred since the last report; the first on October 20, 2008, and the second on February 11, 2009. The following topics were discussed: 1) Update on the MOU between USFWS and FEMA concerning endangered species consultation during emergency mosquito control; 2) Population status of imperiled butterflies in the Keys; 3) Final report on the Miami blue field trials; 4) Update on the USFWS funded studies on laboratory and field trials in the Keys; 5) Mosquito control on State lands; and 6) Update on policy issues between the National Key Deer Wildlife Refuge and the Keys Mosquito Control District.

Workshop for FDACS and the Florida Fish and Wildlife Conservation Commission

On May 15, 2009, the Department hosted a "Wildlife and Pesticides" meeting for the Florida Fish and Wildlife Conservation Commission (FWC). These annual meetings serve as a venue to discuss issues concerning pesticide use and potential impacts to wildlife in Florida. Topics of this year's meeting included: 1) EPA's final rodenticide risk mitigation decision; 2) Difenacoum denial of registration; 3) Avitrol (4-aminopyridine) permitting process; 4) Intentional (illegal) wildlife poisoning with pesticides; 5) Certification of commercial wildlife trappers; and 5) Permitting aquatic herbicide applications.

Miscellaneous

Termiticide Efficacy Reviews

In March 2003 the Department adopted the Termiticide Efficacy Rule (5E-2.0311 Florida Administrative Code), which requires that any product registered as a preventative treatment against termites in new construction in Florida must satisfy specific efficacy criteria. Since the rule's adoption, staff continues to: 1) work with registrants to finalize their submissions to satisfy the efficacy requirements of the Department; and 2) review progress reports from registrants actively gathering the necessary efficacy data. To date, 27 registrants and 72 registered products are included on the table of "Termiticides Registered in Florida for Preventive Treatment of New Construction."

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Mosquito Control Incident Response Team Activation

The Mosquito Control Incident Response Team (MCIRT) was activated twice during the 2008-2009 fiscal year. The first activation was on August 26, 2008, in response to severe flooding in North Florida after Tropical Storm Fay. During the three weeks that the team was activated, seven counties were aerially treated using naled to control adult mosquitoes. The second activation occurred on May 1, 2009, in response to severe flooding along the Withlacoochee and Suwannee rivers in North Florida. That incident involved aerial spraying of naled (approximately 150,000 acres) and ground spraying of permethrin (approximately 900 road miles). The Endangered Species Protection Program Coordinator serves as the planning deputy of the MCIRT and is charged with mapping spray zones in counties receiving mosquito adulticide applications. He also serves as the liaison to other state agencies by providing maps of the areas to be sprayed and notifying them concerning applications made to state-protected lands. These maps are also submitted to the Federal Emergency Management Agency (FEMA) to be used in their consultation with U.S. Fish and Wildlife Service (FWS) concerning possible impacts to federally listed threatened and endangered species.

Good Neighbor Practices Grant

As urban development continues amid lands that were predominantly rural and agricultural in nature, the use of agrichemicals on farms can raise questions among new neighbors. Concerns about pesticides drifting off farms and into neighboring property can be especially heightened when new schools are built next to existing farms. To develop practices that can reduce conflicts between agricultural pesticide application operations and neighboring schools, SES worked with IFAS on a grant proposal that would promote "Good Neighbor Practices." As a result, the National Association of State Departments of Agriculture in cooperation with the EPA has provided funding for a two-year IFAS pilot study. SES and the Pesticide Laboratory will assist in the project.

Pesticide Registration Section

The Pesticide Registration Section registers pesticides that are distributed, sold, or offered for sale in Florida. During fiscal year 2008-2009, 15,287 pesticide brands

were registered for sale and distribution in Florida. Registration fees totaling \$10,168,300 were collected to support the Department's pesticide programs. This larger fee collection effort reflects the Department's initiation of a biennial registration process effective January 1, 2009, through December 31, 2010. The new program is intended to maximize long-range budget planning activities and assist in maintaining efficient customer service despite limited staffing resources.

Pesticide Registration Evaluation Committee

Included in pesticide registration activities were reviews for special registration actions such as Experimental Use Permits, Special Local Need, New Active Ingredient, and Significant New Use registrations. These special registrations are reviewed by the Department and other affected state agencies through the Pesticide Registration and Evaluation Committee (PREC), a consensus-determining group that is responsible for evaluating pesticides, advising the Department of risks associated with the proposed use of the pesticides, and proposing solutions or actions for reducing risks to acceptable levels. The Registration Section's professional staff serves as both liaison and active participants in the PREC process. During this reporting period the committee convened on 12 occasions to evaluate the following: 19 Special Local Need registrations, 10 Experimental Use Permits, 10 Significant New Use, and 20 New Active Ingredient registrations.

Emergency Exemptions

Florida's diverse agricultural system, mild climate, and tourism/trade activities make the state particularly susceptible to the introduction and proliferation of pests. When an emergency condition arises and no effective registered pesticides are available to control a new pest or avert an anticipated significant economic loss due to an urgent and non-routine pest problem, the Department may submit petitions to the EPA for emergency exemptions from registration. Pest emergencies often involve introduced pest species of foreign origin, such as invasive insects, weeds, and plant diseases with the potential to inflict millions of dollars of losses in affected crops and commodities. Exemption requests frequently seek the use of new, low-risk chemicals that may actually decrease the total use of chemicals on the affected crops through their compatibility with integrated pest management programs and by eliminating or reducing

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repeated applications of broad-spectrum pesticides of limited efficacy. Further, these new chemistries usually have better environmental fate and non-target toxicity profiles than many of the older chemicals they are replacing.

The review of emergency use exemptions is a critical part of the Department's efforts to promote the long-term viability of Florida's continued agro-economic development while assuring that pesticide tools will not pose unreasonable risks to human health and the environment. With the Department's technical support (including review of draft Florida petitions pursuant to new federal economic models), the EPA issued five emergency exemptions for pesticide use in Florida during fiscal year 2008-2009.

The Department requested that the EPA recertify Florida's exemptions for the use of the fungicide thiophanate-methyl to control *Fusarium* "hardlock" in cotton, postbloom fruit drop in citrus, and white mold in fruiting vegetables. The cotton use request was later withdrawn by the Department when another fungicide class received federal registration to control hardlock. Cotton growers and their field researchers documented sustained efficacy from this new product during the 2008-2009 production season. Upon a request by the Department, the EPA agreed to extend the thiophanate-methyl fruiting vegetable use petition from December 31, 2008, to April 24, 2009. Since the April 2009 petition expiration date, the Department has communicated frequently with the EPA regarding the need to recertify for this fruiting vegetable use until the FIFRA Section 3 label is approved in mid-2010. In early January 2009 Department staff informed the citrus industry of the EPA's decision not to recertify the postbloom fruit drop uses in grapefruit after the March 19, 2009, expiration. The EPA cited risk cup issues as the driver for its decisions.

In late spring 2008, the Commissioner of Agriculture issued a crisis declaration to assist the sugarcane industry in a strategy for controlling orange rust (*Puccinia kuehnii*). This fungal pest was affecting a specific variety of sugarcane known for its high sugar content; control had a direct positive impact on crop yield. The Department had previously submitted to the EPA a three-year quarantine petition request for the use of both pyraclostrobin and metconazole to control this pest.

The Department reviewed a request from a representative of minor crop industry to assist in applying to the EPA for the use of metaldehyde to control snails in 300 acres of floating watercress. This petition to the Department was the first to incorporate EPA's new tiered economic approach to show a "significant economic loss" under the revised Section 18 guidelines. The petition was granted by the EPA in October 2008.

Novaluron was identified by researchers as the active ingredient best suited to provide Florida strawberry growers relief from significant crop damage by the sap beetle. The EPA granted the Department's petition on their behalf effective December 31, 2008.

On September 25, 2008, the EPA granted the Department's request for the recertification of the three-year quarantine exemption for naled to control fruit flies in non-crop areas of the state. This exemption is necessary to assist the Department's Division of Plant Industry in its responsibilities to eliminate fruit fly outbreaks.

Soil Fumigant Reviews

Soil fumigation is a key component in the production of many crops in Florida. This year, two significant and related developments involving soil fumigants resulted in intensive review and evaluation by the Department:

1. The EPA released Re-registration Eligibility Decision documents on a group of soil fumigants (methyl bromide, chloropicrin, metam sodium/potassium, methyl isothiocyanate, and dazomet). The federal review of these fumigants determined that a wide array of additional restrictions was needed to protect workers and bystanders from exposure to fumes. Examples of the new requirements are large buffer zones, posting and notification requirements, air quality monitoring measures, increased worker protection measures, fumigation management plans, good agricultural practices, training programs, community outreach, etc. These safety measures are expected to reduce fumigant exposures to bystanders (people who live, work, attend school, or spend time near agricultural fields that are fumigated) and increase overall safety of fumigant use by requiring greater planning and compliance. The new changes will have significant impacts on industry and state regulatory programs. During a public comment period, the Department provided extensive comments to the EPA,

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many of which were geared toward revising the requirements to enhance clarity, cost effectiveness, and enforceability. The Department was concerned that, aside from potentially taking much of Florida's acreage out of traditional production, the requirements would place a large unfunded burden on its regulatory programs. Based on public comment and the results of new soil emission studies, the EPA has subsequently indicated that it will ameliorate some of the requirements. The Department intends to continue its dialogue with the EPA to stress the need for additional federal funding for new regulatory program costs.

2. The fumigant iodomethane (methyl iodide) received federal registration, and several new formulations were submitted for registration in Florida. This is a new active ingredient; the first for soil fumigation to appear in decades. It is marketed as a potential replacement for methyl bromide, a longstanding industry standard that is being phased out due to concerns for ozone depletion. Iodomethane was registered by the EPA under risk assessment and management approaches similar to those being considered for the fumigants covered in the Re-registration Eligibility Decision. As such, the Department faced the challenge of reviewing new air exposure monitoring and modeling studies, innovative toxicological studies, and complex and lengthy label instructions that radically departed from existing soil fumigant labels. The Florida registration was conditionally accepted after an exhaustive eight-month review that included regular dialogue with the EPA.

Registration Tracking System (RTS)

The Pesticide Registration Section successfully completed the process of updating the 2007-2009 product brand registration information into the Registration Tracking System (RTS). The section completed RTS training for headquarters staff and enforcement field staff.

The section continued its assistance to the Bureau of Compliance Monitoring in the creation of their Pesticide Use Permitting System (PUPS). A module was added to RTS to assist their efforts. The PUPS focuses on tracking notifications of intent to apply for a single pesticide active ingredient, but it will have the capability to track other active ingredients whenever the need to do so is identified by the Department.

During this reporting period the Department's new e-gov credit/debit card system was fully implemented and successfully utilized by a number of pesticide registrants for payment of both new and renewed product brands. In a related effort to improve services, the Registration Section continued its participation in a national e-label pilot project entitled ALSTAR (Accepted Label State Tracking and Repository). This e-label project is being coordinated with six other state registration programs through the National Pesticide Information Retrieval System and is designed to make pesticide labels available online. Current participation in the ALSTAR project has grown to 25 state agencies and 25 pesticide companies. Also, the RTS was upgraded to allow for the collection and posting of biennial registrations beginning in November 2008.

Pesticide Laboratory Section

The Department's Pesticide Laboratory analyzes a variety of official samples, including formulated pesticide products, pesticide application tank mixes, and environmental samples to support compliance investigations and pesticide management activities. Formulation analyses are performed in accordance with Florida Statutes for label guarantee, and tank-mix sample analyses are performed to assess the use percentages of the active ingredient. In fiscal year 2008-2009, a total of 96 formulation and/or tank-mix samples were analyzed, requiring 3,673 sample determinations to verify whether the percentages of guaranteed active ingredients were within allowable tolerances. The rate of violations encountered for product formulations testing this past year was 10 percent.

In support of registration, compliance, and technical assessment activities, 580 environmental samples were analyzed, requiring 65,095 determinations. To ensure a high quality of analysis, the laboratory analyzed 1,305 quality control samples, requiring 35,301 determinations. Quality assurance samples were analyzed for method development and validation as well as for control of routine sample analyses. Overall, during fiscal year 2008-2009 the laboratory reported 3,589 more sample determinations than were reported for the previous fiscal year. The continuing trend for increases in the number of determinations is driven primarily by the quantity of pesticide screens requested by the pesticide program areas.

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The laboratory responded to a wide variety of method development requests and increased its screening capabilities during the past year. Method development work for individual compounds and related analytes was conducted in a variety of environmental matrices (e.g., soil, water, vegetation). In addition, method development work continued in the area of fumigant and air quality analysis techniques utilizing purge/trap sample introduction techniques with gas chromatographic/mass spectrometric capabilities.

The laboratory's technical training program continues to include in-house proficiency samples. In addition, in 2008-2009, the laboratory successfully participated in two external check sample programs: the Association of American Pest Control Officials formulation check sample program and the EPA/Wisconsin residue check sample program. Further, the laboratory is actively involved in revising and preparing all of its standard operating procedures to work toward ISO 17025 Laboratory Accreditation.

The laboratory implemented changes to its Laboratory Information Management System (LIMS), which allowed for the elimination of paper recordkeeping logs for sample preparations. All sample preparation records are now entered directly into the LIMS. This change has eliminated the need to perform manual sample result calculations. The automation of sample result calculations has resulted in improved data accuracy by eliminating manual calculation, transcription errors, and consequentially reduced staff time devoted to data processing and quality assurance review. The laboratory is currently developing additional LIMS enhancements to continue to improve overall laboratory efficiency.

Pesticide Certification and Licensing

The Pesticide Certification and Licensing Program helps to ensure a safe food supply, healthy environment, and the protection of workers and the public through training and competency testing of pesticide users. This program is coordinated with the EPA and the University of Florida (UF) with the 67 county Institute of Food Agricultural Services (IFAS) Extension Offices to ensure consistency in educational efforts and certification standards. EPA has approved the Department's program as meeting federal pesticide applicator certification requirements, and EPA staff provides limited guidance and pro-

gram assistance as needed. UF-IFAS assists by developing training manuals and certification exams, providing training classes and workshops, and administering the majority of the certification exams.

In fiscal year 2008-2009, the Department issued or renewed 2,965 pesticide applicator licenses and 387 pesticide dealer licenses. The total number of active licenses as of June 30, 2009, was 11,837. Department staff approved 1,429 pesticide training programs to issue continuing education units (CEUs) for pesticide applicator recertification and license renewal, making available 8,951 CEUs for license renewal. An online CEU class search is available to help pesticide applicators locate training opportunities that provide CEUs. Department staff also monitored 29 programs for a total of 75.5 hours of training classes throughout the state and gave six presentations on pesticide laws and regulations, licensing requirements, and procedures relevant to pesticide use.

Aldicarb Permit Program

The Aldicarb Permit Program tracks the use of the restricted-use pesticide aldicarb (Temik) in Florida to ensure protection of ground water from contamination with aldicarb residues. All uses of aldicarb must be approved prior to application and soil type and wells must be identified for each application site before permits are issued. In fiscal year 2008-2009, the Department issued permits for aldicarb to be applied to 3,098 sites in Florida, including 318,995 acres of citrus, 16,941 acres of potatoes, 30,845 acres of peanuts, 19,832 acres of cotton, and 433 acres of soybeans. Permit applications may be submitted by fax or mail or online at www.flpesticidepermits.org. Information about the aldicarb program and permit applications are available on the Department web site www.flaes.org.

Aircraft Registration Program

The Department administers a registration program for aircraft used to apply or dispense pesticides, fertilizer, and seed. Aircraft owners/operators are required to register all aircraft used and must also report to the Department all sales, purchases, leases, and other transactions involving these aircraft. As of June 30, 2009, there were 144 aircraft registered. The number registered to apply each of the following products is as follows: 102 for public health pesticides, 51 for agricultural pesticides, 26 for

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fertilizer, 24 for seed, 11 for bait, and 10 for burn agents.

Worker Protection Program

The Department uses a multifaceted approach to protect agricultural workers from pesticide hazards. Certification and licensing is required of individuals who use restricted-use pesticides to ensure they are aware of pesticide safety requirements and are competent to use pesticides properly. Since the inception of the program, the Department has certified and licensed over 7,500 individuals to use restricted-use pesticides in agricultural sites, and there are currently over 11,000 individuals licensed. Also, licensed pesticide applicators are required to train their unlicensed assistants on pesticide safety before restricted-use pesticides are handled.

The Department enforces the federal Worker Protection Standard (WPS) in Florida, which requires pesticide safety training for all agricultural pesticide handlers and agricultural workers who work at agricultural sites where pesticides have been applied in the last 30 days. The training must include information on how pesticides might enter the body and how to prevent pesticide exposure. Since the inception of the program, approximately 3,000 individuals have been certified to conduct WPS pesticide safety training. A total of 61,950 EPA worker cards and 11,587 EPA handler cards have been issued to certified trainers to issue to individuals they train. The EPA card system is voluntary and the numbers do not represent the total number of individuals trained. This year a new database/training program for the train-the-trainers was implemented to provide better reporting information.

The Florida Agricultural Worker Safety Act (FAWSA) is also enforced by the Department and requires agricultural employers to provide a fact sheet or Material Safety Data Sheet (MSDS) to agricultural workers upon request so workers will know the hazards of pesticides they may be exposed to in the workplace. Under FAWSA requirements, the Department also makes available a pesticide safety sheet in English, Spanish, and Creole/Haitian with illustrated instructions on preventing pesticide exposure and a toll-free telephone number for the Florida Poison Control Centers. To date, over 50,000 pesticide safety sheets have been distributed by the Department to assist pesticide safety trainers. The safety sheet can also be downloaded from the Department's web site at www.flaes.org/complimonitoring/workersafety/index.html.

[flaes.org/complimonitoring/workersafety/index.html](http://www.flaes.org/complimonitoring/workersafety/index.html).

During the 2008-2009 fiscal year, the Department conducted 1,188 WPS inspections at farms, forests, nurseries, and greenhouses. One hundred sixty-one, or 14 percent, of these inspections identified violations of the WPS, and a total of 276 violations were identified for the year.

In addition to enforcing the WPS set out under state and federal law, the Department conducts education and outreach programs for agricultural workers. Sessions are conducted to educate workers about pesticides, and a bilingual outreach educator is available to meet with workers as needed. In addition, the Department conducts train-the-trainer programs in order to reach more workers through the help of other workers and worker organizations.

The Department strongly encourages workers to seek immediate medical attention if they believe they have been harmed by pesticides while working. Workers are also encouraged to promptly report potential violations of the WPS to the Department for investigation and response. Under the WPS, workers must be notified about treated areas so they may avoid inadvertent exposures; handlers and workers must be supplied with water, soap, and towels for routine washing and emergency decontamination; transportation must be made available to a medical care facility if a worker or handler may have been poisoned or injured; and information must be provided about the pesticide to which the worker may have been exposed. Additionally, personal protective equipment must be provided and maintained for handlers and early-entry workers; safety training is required for all workers and handlers; a pesticide safety poster must be displayed; handlers and workers must be informed of pesticide label requirements; and central posting of recent pesticide applications must be displayed.

Pesticide Regulation

The Pesticide Compliance Section helps ensure that pesticides are used correctly and according to the rules and laws developed to protect consumers, the environment, and the food supply. For the 2008-2009 fiscal year, 341 specific complaints, tips, and allegations were investigated. Samples were collected of various pesticides to assure that they were formulated correctly and contained

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precisely what their labels guaranteed. Allegations concerning pesticides drifting from a targeted area onto other non-target areas were investigated, and samples of soil, water, and vegetation were collected from the areas in question and analyzed. Fish, bird, and animal deaths allegedly caused by pesticides were investigated. Claims of pesticide exposure were investigated, including claims of pesticide exposure to farm workers. Section staff worked to ensure that the WPS was followed on various agricultural establishments throughout the state. Investigations were also conducted to ensure that pesticides imported into Florida were properly registered and allowed to be used.

For the 2008-2009 fiscal year, the Department conducted 1,943 pesticide inspections at agricultural, non-agricultural, and product-related establishments. Two hundred fourteen, or 11 percent, of these inspections identified 391 violations of the Florida Pesticide Law. The Department issued 491 enforcement actions during the 2008-2009 fiscal year, 59 of which were administrative fines. The Department assessed \$35,000 in fines and collected \$28,425 in fine money during the 2008-2009 fiscal year.

Some of the more common violations identified during the 2008-2009 fiscal year include 276 violations of the Worker Protection Standard, 32 violations for lack of personal protective equipment, 42 unregistered pesticides, 13 misbranded pesticides, 14 incomplete applicator records, 16 restricted-use/purchase violations, and two pesticide drift violations.

Pesticide Use Regulation Program

The Pest Control Enforcement Section investigated 451 consumer complaints and conducted 2,847 licensed business inspections. Enforcement activities for the year resulted in the issuance of 372 enforcement actions and the imposition of \$100,975 in fines. In addition to the fines that were issued, the bureau also revoked three Pest Control Operator certificates, suspended one certificate, issued 81 warning letters, 67 advisory notices, 83 cease-and-desist orders, and conducted 34 informal hearings. The bureau litigated two different cases against one South Florida Company since 2005. The bureau's first complaint concerned a denial of a certificate and identification card to an employee of this company. During the period in which the first case was being litigated, the operator was caught conducting pest control without

any Department credentials. The bureau then issued a second complaint in 2006 against the operator for illegal pest control. The cases were heard separately in 2008 and the decisions in both the denial and charge of illegal pest control upheld the Department's actions.

In 2008 the bureau added a second officer to further assist field enforcement staff with illegal pest control activities in South Florida as well as protect consumers against criminal pest control perpetrated by illegal operators or licensed pest control companies. Due to difficulties in recruiting officers in South Florida, and the subsequent unanticipated resignation of the South Florida officer, the bureau restructured its law enforcement functions and is now utilizing only one officer. The proactive participation of the new officer resulted in two physical arrests and eight notice-to-appear citations being issued to illegal pest control operators in the state.

The bureau also implemented a new field inspection procedure that would allow real-time testing for the presence of fumigant warning agent (chloropicrin) in structural fumigations. This new procedure was developed at the University of Florida and was supported by funds from fines issued to pest control violators. The procedure was also implemented with the cooperation of the Florida Fumigation Advisory Council. The new testing procedures will enhance the Department's efforts to ensure fumigations are conducted safely and in compliance of the fumigant label.

In an effort to streamline further field operations, the bureau developed a web-based Fumigation Notification System (FNS), which will simplify the requirement for prior notification of a structural fumigation. This system will eliminate the use of paper notices and facsimile machines that were used to send the notices to each inspector. It will also eliminate the need for two full-time clerical positions in two different field offices. The bureau's inspectors will be able to better utilize electronic access in real-time, to log onto the Department's web site and obtain notification of fumigations in their vicinity. This system also maintains an electronic record of the fumigation notice and thereby enhances the accuracy of enforcing the 24-hour notification period.

The Bureau of Entomology and Pest Control's Document Issuance Section is responsible for issuing docu-

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ments such as licenses, permits, certificates, and identification cards to approximately 40,000 members of the pest control industry. The bureau issued 3,441 business licenses, 4,536 certified operator's certificates, 25,272 employee identification cards, 573 limited governmental/private applicators, and 1,971 limited lawn maintenance certificates. Additionally, certification examinations were administered to 2,218 applicants.

Recent statutory changes have required the bureau to develop a new limited fertilizer applicator certificate. This certificate will be required of all persons who make fertilizer applications on a commercial basis (for hire). The licensing program will not be fully implemented until 2012, but the division is expecting approximately 150,000 applicators to need this certificate.

Operation Cleansweep

The Bureau of Compliance Monitoring also coordinated with the Florida Department of Environmental Protection to conduct Operation Cleansweep, a mobile pesticide collection program that provides a safe way to dispose of cancelled, suspended, and unusable pesticides at no cost. This program collected a total of 81,717 pounds of pesticides in fiscal year 2008-2009 from farms, nurseries, golf courses, and pest control firms throughout the state.

Mosquito Control Program

The Department held three meetings of the Florida Coordinating Council on Mosquito Control during fiscal 2008-2009. Some of the issues included field trials and final findings on mosquito control impact on the Miami blue butterfly, white paper updates, arthropod control plans for conducting emergency mosquito control operations, mosquito control on wildlife refuges, the Department mosquito control research grants, and fiscal impacts on mosquito control districts.

There were 16 Public Health Pest Control certification training sessions provided throughout the state, and 395 certificates were issued or renewed. Active licenses for the section include 1,349 Public Health Pest Control certified applicators and 126 Aerial Public Health applicators. The Department awarded \$1,802,000 in mosquito control aid to the districts in fiscal year 2008-2009, and allocated \$248,050 for mosquito control research through its competitive grants program.

Operational Support – Dog Fly Program

The Dog Fly Program was officially closed June 30, 2008, after the Legislature voted to discontinue the program during the 2008 Legislative Session.

Mosquito Control Incident Response Team

The Mosquito Control Incident Response Team (MCIRT) was activated twice during the 2008-2009 fiscal year. The first activation was on August 26, 2008, in response to severe flooding in North Florida after Tropical Storm Fay. During the three-week activation, 622,323 acres in seven counties were aerially treated using naled to control adult mosquitoes. The second activation occurred on May 1, 2009, in response to severe flooding along the Withlacoochee and Suwannee rivers in North Florida. That incident involved aerial spraying of naled over 152,344 acres in two counties, and ground spraying of permethrin over approximately 900 road miles.

Commissioner's Agricultural Environmental Leadership Awards

The 2008 Commissioner's Agricultural-Environmental Leadership Awards were presented on October 10, 2008, to two agricultural operations in recognition of their leadership in promoting progressive environmental practices. The awards program is in its 15th year and has recognized a total of 47 winners. The 2008 winners are Carroll Brothers Nursery in Clearwater, and Brock Family Farm in Jefferson County.

Each year, nominations for the awards are reviewed by a screening committee composed of scientific and technical experts with the Department, which selects the finalists. The winners are selected from the group of finalists by a selection committee made up of representatives from The Nature Conservancy, the state's Water Management Districts, the Florida Farm Bureau, the Florida Cattlemen's Association, the Florida Dairy Association, the Florida Department of Environmental Protection, the Florida Fruit and Vegetable Association, the Florida Fish and Wildlife Conservation Commission, Florida's Soil and Water Conservation Districts, Florida Citrus Mutual, the Florida Forestry Association, and the Florida Nursery, Growers and Landscape Association.

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Division of Forestry Forestry Programs

Wildfires

Throughout the 2008-2009 fiscal year there were 3,240 wildfires, compared to 3,222 wildfires during the previous year. The number of human-caused fires was up from 2,002 in the 2007-2008 fiscal year to 2,609 during the 2008-2009 fiscal year. The spring of 2009 was extremely dry and the entire state was experiencing persistent drought conditions. This, along with large amounts of frost-killed vegetation from the winter months, led to volatile fire conditions.

Even though the number of human-caused fires was up from the previous year, 64,000 fewer acres were burned. The number of human-caused fires and amount of acreage burned could have been higher without the implementation of the Division of Forestry's (DOF) aggressive fire prevention public awareness campaign. The campaign messages were advertised through the use of radio public service announcements, billboards, and movie advertisements.



April, May, and June are usually the most active months of Florida's fire season. From April to June 2009, 372, or 60 percent, of the wildfires were caused by lightning. Debris-burning was the second most common cause of fire, accounting for 101 fires.

The Forest Protection Bureau dispatched over 300 individual resources within the state during the fiscal year.

Early in the year, two Florida hand-crews were deployed to the western United States as part of the southern area module. In early September the DOF Red Incident Management Team (IMT) was deployed to Galveston, Texas, for support in the aftermath of Hurricane Ike. The DOF Blue Incident Management Team assisted with wildfire suppression activities on the Indian Lake Fire in the Bunnell District and in the Orlando District during the Orlando-Volusia Complex fires. Along with the IMTs, numerous dozer strike teams and engine strike teams were dispatched throughout the state to assist where needed.

Forest Protection

DOF personnel made 15,576 media contacts during this fiscal year as local field units made the public aware of the extremely dry conditions existing in the state. Public information concerning Florida's extended drought and the increasing wildfire risk throughout the state was the topic of local news releases, presentations, and workshops.

While informing the public about wildfire risk, mitigation specialists and other local personnel took the opportunity to increase efforts to expand the division's Firewise Communities USA program and develop local and countywide Community Wildfire Protection Plans. Forty-six communities began the planning process to become recognized as a Firewise Community USA. Three communities completed the process and received national recognition. Each of these communities, whether they were at the beginning of the planning process or at the end, took local responsibility for evaluating their wildfire risk and taking steps to lower that risk. Mitigation Specialists and other local personnel provided these communities with technical support and encouragement. Forty-six Community Wildfire Protection Plans (CWPPs) were initiated during the fiscal year. The CWPP planning process brings together the DOF, local fire service representatives, local elected officials, and homeowners to develop a realistic assessment of community wildfire risks and strategies to lower those risks. As a planning document, the CWPP becomes the basic background for the application for federal funds, including FEMA hazard mitigation grants. The CWPP also assists with the update of the local Legal Mitigation Strategy.

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During this fiscal year, Florida experienced significant dry conditions and high potential for wildfire activity. However, messaging about wildfire risk and increasing awareness of wildfire prevention significantly impacted the number of human-caused wildfires during the year. Human caused wildfires dropped 23 percent below the state's 18-year average – 2,609 this year compared to the average of 3,428.

The following is a capsule of the accomplishments of the Mitigation Specialists:

Total Media Contacts	15,576
Radio Contacts	3,539
TV Contacts	5,944
Newspaper Contacts	5,108
Web-based Contacts	985
Media Releases Prepared	270
Homes Visited Door to Door	3,561
Presentations and Local Workshops	212
Participants	8,859
Arson Alert Signs Posted and Cards Distributed	6,555
Brochures/Flyers Distributed	28,530
Home and Community	
Wildfire Risk Assessments Completed	844

From March through June, DOF ran an intensive state-wide radio campaign using three wildfire prevention announcements. Two additional PSAs were created and aired locally, one featuring the University of Florida's soccer coach and another featuring Miss Florida Forestry. These radio spots focused on fire prevention and encouraged actions to make a home Firewise. These PSAs were aired in English and Spanish. The radio spots were broadcast during the most active portion of Florida's wildfire season on more than 67 affiliate radio stations, reaching an estimated 3 million people. Video versions of these PSAs were also run by local cable affiliates during the peak of fire season.

The four regional fire management teams and the local field units worked on 270 fuel reduction projects throughout the state during this fiscal year. These projects used prescribed fire and mechanical methods to reduce the fuel load on 20,751 acres. These projects directly contributed to the wildfire risk reduction for 4,388 homes valued at over \$1.3 billion. The cost for

these projects was approximately \$1.11 million, which is less than \$253 per home.

The first-ever in-depth wildfire prevention study was conducted by the U.S. Forest Service Research Station in North Carolina using data from the DOF's wildfire prevention and mitigation program. Preliminary results show that the DOF has spent an average of \$0.6 million per year from 2000 to 2005. The losses averted during this same period totaled \$123 million per year. This study is in the process of going through committee review for publication in the fall of 2009.

Despite a dry spring, prescribed burning acreage remained steady in fiscal year 2008-2009, with DOF authorizing prescribed burning of nearly 2.3 million acres. Prescribed burning is an important land management tool in Florida. It increases forest health, improves wildlife habitat, and reduces the risk and severity of wildfires.



DOF administered the Volunteer Fire Assistance (VFA) Grant Program to volunteer fire departments that serve rural communities. Approximately \$225,100 was awarded to 59 fire departments. This was a 50 percent matching grant fund, which enabled the fire departments to purchase approximately \$450,200 worth of equipment, communication devices, fire engine parts, hoses, nozzles, and firefighter protective gear. In addition, there are currently 42 fire Department-approved VFA grants that will pay out \$226,445 when they are completed.

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DOF also screened over \$8.9 million in federal excess property in support of the fire program. A good portion of that equipment was in the form of military trucks that went to rural fire departments. The majority of the 134 trucks that were provided were 6x6, 2.5-ton military trucks with automatic transmissions and super-single tires. Fire departments convert these units to brush engines to assist DOF with wildfire suppression. There were 55 generators distributed for emergency response. Without the assistance from rural volunteer fire departments, the wildfire problems in Florida would be much more severe.

There have been 934 trainees that have taken part in the one-day Certified Pile Burner program since it started in October 2006. During this past year the program held 10 classes across the state and five more are planned by the end of 2009.

The American Recovery and Reinvestment Act, signed on February 17, 2009, provides a wide range of public benefits, including \$250 million to the U.S. Forest Service nationally for state and private forestry activities. These activities include hazardous fuels reduction, forest health, and ecosystem improvement. On March 11, 2009, DOF was awarded \$900,000 through the Recovery Act. Of the several grant requests that were submitted, the Florida Communities Fuels Management Program was approved for funding. The program will provide funding for DOF to conduct prescribed burning and other hazardous fuel reduction activities such as roller chopping, mowing, and mulching to minimize the impact of wildfires. Community information and education projects will also be targeted at Florida residents living in and in close proximity to high wildfire risk areas.

Land Acquisition

Land acquisition closings for fiscal year 2008-2009 through the DOF Florida Forever program Additions and Inholdings totaled 1,274.86 acres at a value of \$6,075,081. A total of 10,065 acres were added to the state forest system during the year under Florida's Conservation Land Acquisition Program. All of these lands are managed to provide as many compatible uses and benefits to the public as possible while still providing protection for threatened or endangered species of plants and animals.

The Rural and Family Lands Protection Program (RFLPP) is a land acquisition program designed to acquire perpetual easements over working agricultural lands (preference to ranch and timber lands) to ensure natural resource protection and the continued economic viability of agricultural activities on those lands. The program was created in 2001, but did not receive funding until this year. In 2008, RFLPP received \$10.5 million for the purchase of perpetual conservation easements. In late 2008, the program received 35 qualified applications that were subsequently reviewed, evaluated, and submitted to the RFLPP Selection Committee to be prioritized. After the RFLPP Prioritized Acquisition list was approved by the Board of Trustees, the RFLPP's first conservation easement, 690 acres of Evans Ranch, was approved in July 2009. The project was submitted as a 50-50 partnership with St. Johns River Water Management District. As such, the Board of Trustees paid \$1,374,825 of the total purchase price of \$2,749,650.



As lead agency, DOF is responsible for administering the Federal Forest Legacy Program (FLP), whose purpose is to protect environmentally important forest areas that are threatened by conversion to non-forest uses and, through the use of voluntary conservation easements and fee simple purchases, to promote forestland protection and other conservation opportunities. In fiscal year 2007-2008, no project applications were submitted. In fiscal year 2008-2009, two applications were submitted and DOF's FLP Coordinator served on the National Ranking Panel.

The Land Acquisition Section is responsible for coor-

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dinating land management planning for all 35 forests through the Acquisition Restoration Council (ARC) and the Board of Trustees (BOT). Additionally, the unit will perform 31 land management reviews on various state-managed conservation/recreation properties in fiscal year 2009-2010.

Natural Resource Management

DOF manages natural resources by providing technical and financial assistance to private landowners and communities, and operating programs on State Forests and other state lands. DOF employs multiple-use principles to ensure a sustained healthy forest for 1,043,860 acres on 35 state forests. The most current scientific knowledge is used to ensure good stewardship and the practice of silviculture based on sound ecological principles. All of these lands are managed to provide as many compatible uses and benefits to the public as possible while still providing protection for threatened or endangered species of plants and animals. Public recreational opportunities on these lands include fishing, hunting, hiking, picnicking, canoeing, camping, swimming, bird watching, off-highway vehicle use, bicycling, and horseback riding. Approximately 834,466 visitors participated in these activities during the year. During the 2008-2009 fiscal year, the management of State Forests generated revenues of \$7,625,399.27. This revenue is derived from timber sales, miscellaneous forest products sales, and recreation fees. Approximately 15 percent of the total State Forest revenues are returned to Florida counties.

State Forest revenues generated in fiscal year 2008-2009 were in the following specific categories:

State Forest Timber Sales	\$5,711,418.64
Miscellaneous Products	476,365.72
Other Public Lands (DOF Share)	236,139.40
Recreation	1,201,475.52
Total	\$7,625,399.27

(Miscellaneous products revenue category includes cabbage palms, palmetto fronds, pine straw, apiaries, grazing, fuel wood, crooked wood, grove leases, etc.)

DOF continues to move forward with forest community ecosystem restoration activities on the state forests across the state. In fiscal year 2008-2009, 6,476 acres of

reforestation was completed on State Forests, with over 60 percent of the total acres being reforested with longleaf pines. DOF supports other state agencies with the Other Public Lands (OPL) Program. In fiscal year 2008-2009, the OPL Program generated \$2,184,454 in timber revenue for other government agencies that include the Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, Water Management Districts, Department of Corrections, and various counties and municipalities. In addition the OPL Program gave valuable advice to other state agencies on how to successfully restore forested uplands and increase the value of the state's timber asset.

Andrews Tree Nursery

The DOF's Andrews Nursery produced and sold 5.7 million bare root pine seedlings and 4.6 million containerized pine and wiregrass seedlings to 617 customers, generating more than \$1,084,000 in revenue.

The DOF seed orchards at Blackwater River State Forest and Withlacoochee State Forest had a phenomenal cone collection season during the fall of 2008. DOF personnel collected over 15,455 bushels of longleaf pine cones, which yielded 16,895 pounds of longleaf pine seed. In addition to these, cone collection contracts were bid that allowed three companies to also collect cones at Blackwater State Forest with a percentage of their resulting seed returned to DOF. These contracts allowed the collection of an additional 16,120 bushels of longleaf pine cones, from which DOF received another 3,770 pounds of longleaf seed. The total amount of longleaf pine seed added to the DOF supply during fiscal year 2008-2009 was 20,665 pounds. In addition to the longleaf seed, 1,906 pounds of slash and loblolly pine seed were also added.

Technical Assistance

DOF provides technical assistance to help private landowners and communities make informed decisions to develop and achieve their objectives in forest land management.

The Forest Stewardship Program, part of a national initiative that encourages private forest landowners to manage properties for multiple uses, provided 149 Forest Stewardship Plans on 58,084 acres. Sixty-three

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landowner properties were certified as Stewardship Forests. DOF received 155 new applications for the Forest Stewardship Program. The applications covered more than 64,000 acres. In addition to Forest Stewardship Plans, county foresters provided 3,359 forest management recommendations to landowners owning more than 224,000 acres. Forestry education workshops were presented to more than 2,300 adults and nearly 5,000 youths.

During this fiscal year, the Southern Pine Beetle Prevention Cost-Share Program approved a total of \$624,622 for 246 landowners to conduct thinning and prescribed burning treatments on 29,445 acres of pine forests.

DOF awarded \$333,815 in federal Urban and Community Forestry Grants to 30 non-profit organizations, local governments, and educational institutions to enhance their ability to carry out effective urban forest management programs in their respective communities.

DOF also provided technical assistance support to landowners in cooperation with other USDA agencies, including the Conservation Reserve Program (CRP). During the past year, DOF foresters provided 393 landowner assists on 9,982 acres of private non-industrial forest lands under the CRP program. Additionally, the 2008 Farm Bill provided expanded opportunities for incentive payments to private non-industrial forest landowners under the Environmental Quality Enhancement Program (EQIP). In Florida to date, 60 landowners have been pre-approved in 18 counties for \$700,000 that the Florida Natural Resource Conservation Service (NRCS) set aside specifically for forestry practices under EQIP.

DOF technical assistance also included completing two hurricane recovery assistance programs provided through the USDA Forest Service for recovery from the 2005 hurricane season. The two programs include the Urban and Community Forestry Hurricane Wilma Recovery Program, through which 26 communities were approved for a total of \$704,429 to plant 5,427 trees, repair 641 trees, conduct three community forest assessments, and conduct three mitigation/remediation projects. This program ended on September 30, 2008. Additionally, the Emergency Forestry Conservation Reserve Program (EFCRP) provided cost-share assistance to 53 non-industrial private forest landowners in two coun-

ties owning 4,997 acres damaged by Hurricane Dennis. During this fiscal year, DOF foresters provided landowner assistance under this recovery program in the form of cost-share plans, prescribed burning plans, tree planting and survival inspections, and general landowner assistance. Landowners have received \$742,858 to date for cost-share and lump sum payments under EFCRP.

Forest Health

The ongoing federally funded Southern Pine Beetle Prevention Program continues to be popular. During this fiscal year, nearly \$938,000 in assistance was provided to 304 private non-industrial landowners in northern Florida for silvicultural practices reducing the risk of serious losses to the southern pine beetle. Nonnative invasive pest plants continue to be a serious and growing threat to Florida's forest resources. Federal funds totaling \$225,000 annually are divided among several State Forests and the multiagency Central Florida *Lygodium* Strategy in strategic support of management activities. This past year also saw the development of a new \$400,000 federally funded, two-phase initiative directed at cogongrass treatments in northern Florida: 1) cost-share assistance to private non-industrial landowners, and, 2) direct assistance to county road/public works departments. Cooperative efforts continue with the University of Florida's School of Forest Resources and Conservation for projects such as the development of age-specific forest health educational materials for public schools and/or Future Farmers of America programs, and assessments of oak diseases and urban tree decay. Monitoring of laurel wilt disease in redbay populations and annosum root disease in partially harvested pine stands continues.

Forest Inventory and Utilization

DOF, in cooperation with the USDA Forest Service Forest Inventory and Analysis (FIA) Program, conducts annual forest timber inventory and other resource studies for all forest lands in Florida. The most recent FIA data are available on the U.S. Forest Service Southern Research Station web site. A fact sheet describing Florida forests based on the 2007 FIA data has also been developed, and a full analytical report will be published in 2010. In addition, DOF collected data on wood use in primary mills, and the final report titled "Florida's Timber Industry: An Assessment of Timber Product Output and Use,

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2007" has been published. The "Forest Harvest and Utilization Study, 2008" has also been published. All three components of the FIA process – FIA plot data, TPO mill data, and utilization study – will allow for an updated and complete picture of Florida timber resources and forest industry.

Field Operations Hydrology

DOF is responsible for the development, implementation, and monitoring of Silviculture Best Management Practices (BMPs) that protect the state's water resources, and for implementing hydrologic and wetland restoration on state forests.

Silviculture BMP training included 26 workshops to continually update landowners, loggers, and foresters on recent changes. Six hundred and ninety-seven individuals participated in these training sessions.

Voluntary Silviculture BMP courtesy checks were performed for 47 individual landowners throughout Florida where bona fide ongoing forestry operations have occurred.



The Silviculture BMP Implementation Survey was initiated in 1981 and has since been conducted biennially. The principal purpose of the survey is to determine the level of implementation (compliance) with Florida's Silviculture BMPs. The survey is conducted on a random sample of recent forestry operations throughout the state. Both public and private forest lands that meet the selection criteria are eligible for the survey. Considering

all practices in all BMP categories, statewide implementation in 2007 was 98.6 percent. The results of the 2009 implementation survey will be forthcoming during fiscal year 2009-2010.

Wetland restoration efforts continued on Florida's State Forests in fiscal year 2008-2009 with cooperation and assistance from other state and federal agencies. During the past 12 months, four restoration projects were initiated and one completed. This enhanced wetland values and restored approximately 1,377 acres of impaired wetland functions on three State Forests (Withlacoochee, Tate's Hell, and Lake Wales State Forests). Ongoing work includes exotic plant (melaleuca) treatments within the Regional Off-site Mitigation Area (ROMA) on the Picayune Strand State Forest and project effectiveness monitoring.

Total estimated cost for wetland restoration activities on State Forests during fiscal year 2008-2009 was \$261,950. Funding for the implementation of these projects was provided through Florida Department of Transportation mitigation funding, federal grants, and the state's compensatory wetland mitigation program administered by the Water Management Districts. DOF's share of all fiscal year 2008-2009 project costs was approximately \$5,000 in the form of in-kind services, representing 1.9 percent of the fiscal year total.

Since the initiation of the DOF's Wetland Restoration Program in 2000, 64 projects have been initiated on 18 State Forests. Thirty-two of these projects have been completed, with a projected ecological benefit to over 67,000 wetland acres. The total expenditure for all restoration projects on State Forests to date is approximately \$1,450,950, of which DOF's share is \$173,268, or 11.9 percent of the total.

Also in fiscal year 2008-2009, DOF completed Wetland Restoration Needs Assessments for six tracts on four State Forests, covering over 4,655 acres. Since 2007, 19 assessments have identified over 400 potential restoration project sites, spanning almost 165,000 acres over 29 forest tracts on 14 State Forests.

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Forest Resource Planning and Support Services Information Technology

The Forestry Information Technology (IT) Section supports microcomputers, applications, Geographic Information Systems (GIS), and Global Positioning Systems (GPS) for DOF throughout the state. Related functions include: hardware and software acquisition; installation and maintenance; Intranet/Internet web page management; application development and maintenance; ongoing upgrading of computer networks; and spatial analyses. These activities are in support of land management and wildfire prevention and management activities.

The application support group focused on the following projects: refactored Fire Management Information System (FMIS) application; Silviculture Best Management Practices (BMP) Survey; and Complex Incident Management Course (CIMC) Tracking. The refactored FMIS application was deployed in the second quarter of fiscal year 2008-2009. The deployment included the software installation, replacement of five servers, and upgrade of the Oracle database and ArcIMS mapping tools. The BMP survey was redesigned and rewritten to facilitate customer-driven survey changes. The CIMC tracking web application provides an online application process to the CIMC course for students and will replace a paper system. It will be available in the second quarter of fiscal year 2009-2010. The student applications will be reviewed online by the CIMC steering committee, and data from the application process will be made available to those presenting the courses.

DOF web support includes three public web sites and the intranet. With closures and other safety concerns during the spring flooding and wildfire events across the state, the web sites provided timely information. The web sites also provided alerts to wildfire locations, county burn bans, and other emergency response information. Additional pages were added detailing information about three new State Forests: John M. Bethea, Ross Prairie, and Four Creeks. New pages were created with details of the new grants for controlling southern pine beetles and invasive cogon grass. The state's Champion Tree Program information was also added this year. Ongoing activities include web site maintenance, updates, public requests, and development of a restructured

intranet site. Visits to the public web sites exceeded 1.5 million.

The GIS/GPS support group provides assistance for a variety of projects. The GIS section updated dispatch maps and incorporated the U.S. National Grid Coordinates. The initial phase of a Champion Trees database for a web mapping application was completed. Work continued from the prior year on the forestry data model, and individual State Forest geo-databases were completed and updated. A red cockaded woodpecker geo-database was created, as timber landowners and State Forests are critical to the conservation efforts for this endangered species. The GIS section provided ongoing coordination to update statewide fire occurrence areas data and to develop statewide tree canopy characteristics. The data will be implemented into the wildland Fire Risk Assessment System (FRAS). The section also coordinated the move of Florida's FRAS from a costly standalone application to a cost-effective and more widely accessible Internet service. Hard-copy and web-based maps depicting wildfire progression, fire perimeters, point locations, fires over 100 acres, burn bans, and wildfire complex maps were provided for wildfire support.

The desktop support group participates in a variety of projects including reviewing new desktop technology, installing computers and printers, and upgrading desktop applications. The support group is in the process of installing 65 ruggedized laptops with vehicle mounts for the asset tracking program. The Forest Area Supervisors will be able to use the laptops in their offices and have them securely mounted in their vehicles. The support group has replaced 66 outdated desktop computers and 20 laptops statewide. The support group has also replaced 14 heavy-duty color printers that were 10 years old with newer, more efficient models. Replacing the older printers will eliminate the cost of frequent repairs. The group is currently assisting in the testing of virtual desktop technology. If the testing proves to run the FMIS program more efficiently, the remaining 28 dispatch computers may be replaced with the PANO virtual machines.

Planning

During fiscal year 2008-2009, the Bureau of Forest Resource Planning and Support Services Planning Section compiled data for reporting DOF accomplishments

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related to legislatively approved performance measures. The bureau also coordinated the development of forestry field unit and bureau annual operational plans, submitted the long-range program plan as part of the legislative budget request, and conducted reviews of county comprehensive planning documents, utility siting applications, and clearinghouse projects on an ongoing basis.

The section administers the Florida Forestry Discovery Center, which is part of the Florida State Fair and receives over 30,000 visitors annually. The section also issues quarterly fiscal reports of operating capital outlay, motor vehicle, and fixed capital outlay status for DOF. In fiscal year 2008-2009, the section also assumed the additional responsibilities of coordinating property inventory and insurance issues as well as the Time Allocation and Accomplishment Reporting System (TAARS).

Construction

The Construction Section provides complete project management for DOF's fixed capital outlay projects, including construction and maintenance programs statewide. During fiscal year 2008-2009, an estimated 46,000 square feet of building space was contracted to be constructed at a cost of approximately \$5.8 million. The 20,000-square-foot Wacassassa Forestry Center Headquarters complex in Gainesville was recently completed at a cost of \$2.7 million. The new facility improves the division's capabilities for firefighting, and forest management and provides better access to the general public. The Construction Section coordinates design, engineering, bid specifications, and construction management for each project. Current major projects include construction of the Belle Glade Forestry Site with a budget of \$350,000, and the Penney Farms and Sebring Forestry Stations, both budgeted at \$600,000 each.

Equipment

The Equipment Section of Forest Resource Planning and Support Services has statewide responsibility for fleet management for DOF. The Equipment Section's major task is the purchase of specialized firefighting and land management equipment and motor vehicles. In fiscal year 2008-2009, DOF received approximately \$7 million in budget allocations and grants to purchase forestry equipment. With this allocation, the Equipment Section

replaced 33 crawler tractors (dozers), 13 transports, 15 engines, eight pickups, and 25 replacement plows, and added one bulldozer, one transport, two engines, two pickups and five plows to the DOF inventory of equipment. Additional fleet items were also added.

The section is also responsible for motor vehicle and equipment specification development for bids and acquisition, equipment inventory, and warranty issues. Certain purchases, such as transports and engines, receive custom fabrication to meet firefighting and land management specific requirements at DOF's Lake City Central Shop.



The following list illustrates the range and scope of projects that the Equipment Section completed during the 2008-2009 fiscal year:

- Acquired new fire-suppression crawler tractors (dozers) to specifically replace existing open-cab dozers with closed-cab dozers for improved safety.
- Spearheaded the re-engineering of the fire-suppression system on the newest model John Deere crawler-tractors.
- Facilitated the addition of quick-release levers to plow hoses for quick disconnect in emergency situations.
- Coordinated the sale at auction of 361 pieces of replaced equipment for a total of \$974,200.

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- Received CDL test facility approval for one additional test site and one new CDL examiner.
- Completed a cleanup of equipment information data.
- Streamlined ordering of Comdata fuel cards and tags.
- Coordinated with the Florida Department of Management Services to revise statewide replacement criteria for automobile and light-truck replacement.
- Revised preventative maintenance procedures for DOF fleet vehicles and equipment to reflect new vehicle manufacturers' specifications.
- Compiled auction history (2001 to present) and posted on shared drive for field unit review.
- Obtained a safety maintenance and operator training to cover newly purchased crawler tractors from John Deere for each field unit.
- Obtained delayed warranty start for almost 80 trucks for fabrication lead time.

Safety

DOF's mission is to manage forest resources and protect Florida and its people from the dangers of wildland fire. The duties and tasks involved in accomplishing this mission are both numerous and hazardous, which is why the safety of employees is a high priority.

DOF's safety program is a proactive program designed to ensure the safety of everyone by foreseeing potential issues and addressing them through training and education. To create the safest work environment possible, DOF utilizes employee safety committees, provides safety training, and has implemented a division-wide health and wellness program. In addition, it has implemented a mandatory defensive driving program for all employees and launched a seatbelt pledge initiative.

Florida Center for Wildfire and Forest Resource Management Training

Fiscal year 2008-2009 marked the 11th year of operation for the Florida Center for Wildlife and Forest Resources Management Training in Brooksville. The center provides classes in Basic Fire Control Training (BFCT) to DOF's new firefighters. The seven-week training program is offered twice per year. This year, 70 new candidates received certification as wildland firefighters in Florida.



The center also provided 60 open-enrollment training courses during the fiscal year. These included courses in wildland firefighting, incident management, computer training, instructional development, vehicle repair and maintenance, domestic preparedness, leadership, health and safety, and natural resource management. These courses were attended by 1,081 DOF employees and 715 non-division (cooperator) students.

The center also provided environmental education to teachers and students through the division's Future Farmers of America and Envirothon programs. In addition, the DOF also co-hosted the annual Florida Forestry Teachers' Tour in mid-June to provide Florida educators the opportunity to learn more about forestry. By visiting public, private, and industry timber lands and forest products manufacturing plants, the 38 teachers were able to gain hands-on knowledge of the forestry profession to take back to their classrooms. The three-day tour is supported primarily by donations from the forestry industry, and is offered free of charge to the teachers, who may also earn 30 CEUs.

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Division of Consumer Services

During fiscal year 2008-2009, the Division of Consumer Services continued its broad mission of serving as Florida's complaint and information clearinghouse. Division staff adequately provided consumer information, processed written complaints, and promoted consumer protection. During this period, the division's Consumer Assistance Call Center handled approximately 299,700 telephone calls and 7,630 email requests to assist consumers and businesses. Additionally, the division received 39,874 written complaints, recovered \$6,895,711 in consumer refunds and property, and provided 285,696 brochures, pamphlets, and booklets for distribution to consumers.



The division continued to increase public awareness through its consumer outreach program by providing speakers and offering consumer education programs to civic groups, community organizations, and high schools throughout the state. The speakers provided general consumer information, and the latest news on scams, fraud, and deception. They also provided educational materials on a variety of topics. In addition, the division utilized its web site www.800helpfla.com to educate consumers and businesses. The web site served as a valuable source for information on the many services provided by this agency and other government and non-government offices. Businesses have access to licensing and registration information, as well as the

forms necessary to comply with applicable regulations. Online services are available, making it more convenient to do business with the Department. Some businesses can renew their registrations and submit filings and purchase lists, and consumers can file a complaint online to have their dispute mediated.

The Department also functions as the U.S. Consumer Product Safety Commission's liaison in Florida regarding product recalls, inspections, and investigations.

Consumer Assistance Call Center

The Consumer Assistance Call Center maintains and operates the Department's toll-free consumer hotline, 1-800-HELPFLA (1-800-435-7352), and the Spanish hotline, 1-800-FLAYUDA (1-800-352-9832). The Call Center is staffed with trained personnel who respond to a wide variety of consumer questions about Florida laws and other consumer-related issues. They assist callers in locating the appropriate governmental office they are seeking and then transfer the caller to that office. They provide up-to-date information and educational brochures.

Consumer questions cover various areas the Department regulates, such as business opportunities, dance studios, game promotions, health studios, intrastate moving, motor vehicle repair, Florida's Do Not Call program, pawnshops, sellers of travel, solicitation of charitable contributions, telemarketing, and the motor vehicle "Lemon Law." The Consumer Assistance Call Center staff also responds to inquiries on a multitude of subjects that are not regulated, such as landlord/tenant issues, buying clubs, and retail store regulations. Staff utilizes the Department's computer database to develop statistical information on the frequency and type of calls received. Each call is logged under a specific subject category in the database, which allows the Department to track and analyze the most prevalent consumer issues. This record enables consumer education efforts to be tailored to the specific needs of the public.

During fiscal year 2008-2009, staff provided 518,412 assists to consumers and businesses by providing information, brochures, and complaint and registration forms. Eighty-nine percent of callers responding to surveys ranked the Consumer Assistance Call Center's service as

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outstanding. Also during fiscal year 2008-2009, as part of the Division of Consumer Services COOP (Continuity of Operation Plan), Consumer Assistance Center staff, with the assistance of division IT and Department communications staff, made it possible for the Consumer Assistance Center to operate at virtually any location with high-speed Internet access in case of an emergency or pandemic. Additional testing has been conducted, proving the feasibility that most Consumer Assistance Center staff will be able to work from home, in the event of an emergency or pandemic.



Consumer Complaints

Complaints are received online and via mail, and deal with a variety of subjects. The Bureau of Mediation and Enforcement processes all consumer complaints filed with the Division of Consumer Services. Division staff reviews each complaint for violations of applicable laws. If the complaint falls within the jurisdiction of the Department or if it is a non-regulated complaint, staff will attempt to resolve disputes through formal or informal mediation. Complaints that fall under the jurisdiction of another federal, state, or local governmental agency are referred to that office for processing. The top five complaint categories during fiscal year 2008-2009 were: telephone sales solicitations (Do Not Call), travel and vacation plans, telemarketing, credit and banking, and price-gouging. During fiscal year 2008-2009, the division received 16,031 complaints filed against entities regulated by the division and recovered \$3,884,650 in monetary refunds and property for consumers. In

addition, another 23,843 complaints filed against non-regulated businesses were received, which resulted in \$3,011,061 in monetary refunds and property to consumers. The division also assisted in recovering an additional \$280,800 in consumer refunds from security instruments (bonds, letters of credit, or certificates of deposit) filed with the Department for the protection of consumers from a breach of contract.

Motor Vehicle “Lemon Law”

The Department administers the Florida Motor Vehicle Warranty Enforcement Act, commonly known as the “Lemon Law.” Personnel respond to consumer complaints and inquiries, provide information about the Lemon Law, and determine whether claims are potentially eligible for state arbitration before the Florida New Motor Vehicle Arbitration Board.

The Department also provides certification to motor vehicle manufacturers who establish informal dispute settlement procedures in compliance with applicable federal and state statutes. In fiscal year 2008-2009, the Department recertified informal dispute settlement procedures for General Motors (GM), Honda/Acura, Nissan/Infinity, Bentley, Volkswagen/Audi, AM General, Isuzu, Hyundai, Kia Motors, Mazda, and Ford Motor Company. These manufacturers utilize the Better Business Bureau Auto Line to administer their programs. Toyota and Lexus were also recertified. These manufacturers utilize the National Center for Dispute Settlement (NCDS) to administer their programs. Porsche changed administration of its certified program from NCDS to DeMars and Associates, CAP-Motors, effective June 1, 2009. Each of these programs is audited throughout the year for compliance.

During fiscal year 2008-2009, the division answered 10,454 telephone calls on the Lemon Law hotline, 1-800-321-5366. The division also processed 624 requests for state arbitration and approved 529 of these for referral to the Attorney General’s Office. In addition, division staff reviewed 2,169 consumer cases that were processed through the manufacturers’ informal dispute settlement programs. Every year millions of dollars are recovered for consumers through the manufacturers’ informal dispute settlement programs. During this fiscal year consumers received approximately \$13,660,560 in refunds.

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Regulated Programs

The Department is responsible for regulating a variety of industries operating in Florida, including business opportunities, dance studios, game promotions/sweepstakes, health studios, intrastate moving, motor vehicle repair shops, Florida's Do Not Call program, pawnshops, sellers of travel, solicitation of contributions, and telemarketing. These programs are designed to protect consumers and the integrity of each industry. Industry members must submit a registration/license application or similar filing and, in some cases, a surety bond, certificate of deposit, or letter of credit to ensure consumer refunds in the event a business defaults.

Business Opportunities

The Business Opportunities Program requires individuals who sell or lease any products, supplies, or services for the purpose of starting a business to register and disclose certain information to prospective purchasers. Some sellers must also submit a \$50,000 surety bond, certificate of deposit or letter of credit. In fiscal year 2008-2009, there were 2,306 sellers of business opportunities and franchises registered with the Department, and staff processed 338 written complaints and enforcements. Additionally, as a result of the division's mediation efforts, consumers received \$445,632 in refunds.

Dance Studios

The Dance Studio Program requires all ballroom dance studios to register with the Department. In some instances, registrants are required to post a surety bond, certificate of deposit, or letter of credit. For fiscal year 2008-2009, there were 204 dance studios registered with the Department, and staff processed 32 written complaints and enforcements. Additionally, staff recovered \$8,505 in consumer refunds and collected \$8,000 in administrative fines.

Game Promotions

The Game Promotions Program requires operators who conduct contests, games of chance, or gift enterprises in connection with the sale of consumer products or services in which the total announced value of prizes offered is greater than \$5,000 to file with the Department. Unless they have been granted a waiver, operators are also required to establish a trust account or obtain a bond in an amount equivalent to the total value of all prizes

offered. During this fiscal year, the Department started using e-commerce to allow game promoters to conduct online transactions when filing promotions. Game promoters filed 1,316 promotions using the Department's e-commerce system. During fiscal year 2008-2009, staff processed 2,978 game promotion filings and 889 written complaints and enforcements. Additionally, staff recovered \$5,216 in consumer refunds and collected \$314,400 in administrative fines.

Health Studios

The Department regulates health clubs that offer health club activities or physical exercise equipment. Some health studios are required to post a \$50,000 surety bond, certificate of deposit, or letter of credit to satisfy consumer claims that may result from violations of Florida law. During fiscal year 2008-2009, there were 1,879 health studios registered with the Department, and staff processed 1,158 written complaints, investigations, and enforcements. Additionally, staff recovered \$62,381 for consumers and collected \$74,600 in administrative fines.

Intrastate Moving

The Department regulates intrastate moving companies operating in Florida. This law requires a written estimate be given to consumers before the mover provides any moving or packing services. During fiscal year 2008-2009, there were 888 intrastate moving companies registered with the Department, and staff processed 1,189 written complaints, investigations, and enforcements. In addition, as a result of the division's mediation efforts, staff recovered \$55,594 in consumer refunds and services and collected \$68,566 in administrative fines.

Motor Vehicle Repair Shops

The Motor Vehicle Repair Act requires an estimate and invoice form be provided to consumers for repair work exceeding \$100. During this fiscal year, the Department continued using e-commerce to allow motor vehicle repair shops to conduct online transactions when renewing their registration. This fiscal year, 1,309 motor vehicle repair shops renewed their registration using the online renewal process. There were 22,413 motor vehicle repair shops registered with the Department. Department staff processed 5,317 written complaints, investigations, and enforcements. Additionally, as a result of the

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division's mediation efforts, staff recovered \$654,314 in refunds for consumers and collected \$233,856 in administrative fines.

Do Not Call

The Florida Do Not Call Law is a privacy law enacted to protect consumers from unwanted telephone solicitations and pre-recorded messages. Consumers can subscribe to the Do Not Call List for an initial fee of \$10, with a \$5 annual renewal fee. Subscribers may file a complaint with the Department for any unwanted phone calls they have received from non-exempt businesses. Consumers may also file a complaint if they receive pre-recorded messages. At the end of fiscal year 2008-2009, the Department had processed 8,268 new subscriptions and 86,889 renewals for a total of 95,197 subscriptions. The program processed 5,722 written complaints and enforcements. A total of \$20,000 was collected in civil penalties.

Pawn Shops

The Department licenses all pawnshops operating in Florida pursuant to the Florida Pawnbroking Act. Each pawnshop must maintain a net worth of at least \$50,000 or file a \$10,000 security in the form of a surety bond, certificate of deposit, or letter of credit. During fiscal year 2008-2009, there were 1,169 pawn shops licensed with the Department, and staff recovered \$6,286 in consumer refunds and collected \$540,900 in administrative fines.

Sellers of Travel

The Department regulates travel agencies that maintain a business location in Florida or who offer to sell to persons in Florida for compliance with the Sellers of Travel Act. Non-exempt sellers of travel must register and, in some cases, submit a performance bond, certificate of deposit, or letter of credit in an amount not to exceed \$25,000, or \$50,000 if they sell vacation certificates. A seller of travel that has been in business for at least five years and meets certain other requirements may apply for a security waiver. In addition, independent agents must submit annual filing statements to the Department. During fiscal year 2008-2009, 6,173 sellers of travel and independent agents were registered with the Department. Staff processed 3,712 written complaints, investigations, and enforcements. Additionally, as a

result of the division's mediation efforts, staff recovered \$1,661,492 in consumer refunds and collected \$15,550 in administrative fines.

Solicitation of Contributions

The Solicitation of Contributions Act requires charitable organizations, sponsors, professional fund-raising consultants, and professional solicitors to register with the Department. During fiscal year 2008-2009, there were 14,607 charitable organizations, sponsors, professional solicitors, and fundraising consultants registered with the Department. The Department processed 856 written complaints, investigations and enforcements. Additionally, the Department collected \$61,617 in administrative fines.

Telemarketing

The Florida Telemarketing Act requires non-exempt telemarketers to obtain a license from the Department and submit a \$50,000 surety bond, certificate of deposit, or letter of credit. During fiscal year 2008-2009, there were 10,648 businesses and individuals licensed with the Department. Staff processed 3,108 written complaints, investigations, and enforcements. In addition, staff recovered \$990,344 in consumer refunds and collected \$111,500 in administrative fines.

Investigations

The Investigations Section conducts investigations of businesses (both regulated and non-regulated) and responds to consumer complaints. The priority for this section is to ensure businesses operate in compliance with applicable laws. This section also investigates businesses suspected of fraud and deceptive trade practices. During fiscal year 2008-2009, the Investigations Section worked 4,482 enforcements and initiated 1,199 investigations covering a variety of topics. The high-volume cases for investigations were pawnshops, telemarketing, and motor vehicle repair. During fiscal year 2008-2009, the Investigations Section conducted a sweep of pawnshops in 17 counties which resulted in the collection of \$437,750 in administrative fines.

Consumer Education

The Division of Consumer Services continued to promote its educational outreach programs aimed at in-

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creasing public awareness of consumer protection issues among Florida citizens. During fiscal year 2008-2009, the division provided 2,525,283 assists to consumers and businesses statewide through a variety of formats, including the web site, newspaper articles, newsletters, brochures, and public presentations.

Division representatives gave public presentations on consumer-related topics to 10,647 consumers representing various groups and organizations throughout the state. The division's web site was monitored and updated on a regular basis to include relevant information to businesses and consumers on various laws as well as current frauds and scams. The web site received a total of 1,678,625 web visits during fiscal year 2008-2009.

At the end of fiscal year 2008-2009, the subscription list for the monthly e-newsletter for Florida consumers contained more than 73,000 subscribers. The newsletter provides quick tips on important consumer-related issues and lists resources for finding additional information. Additionally, the division continued to submit articles on consumer-related issues to the "Elder Update," a newsletter published by the Florida Department of Elder Affairs. More than 70,000 copies per issue were distributed to senior citizens on a bi-monthly basis. Consumer education is the main focus of the division. The division's educational efforts focus on helping individuals become wiser consumers and empowering them to make informed decisions when purchasing products and services and signing contracts.

During this fiscal year the division continued its efforts to Florida's high schools through "Consumer Survival Skills 101," an outreach program designed to educate high school students about their rights and responsibilities as consumers. The program provides them with the necessary tools to make intelligent and informed decisions in a global marketplace. The program was presented to more than 7,000 teachers and students. The Department continued sponsorship of the Florida LifeSmarts program for the 13th year. LifeSmarts is an innovative competition that tests students in grades nine through 12 on their knowledge of personal finance, health and safety, the environment, technology, and consumer rights and responsibilities. The Florida online competition involved more than 1,300 students from public and private high schools, FFA and 4-H clubs,

and home-school settings throughout the state. Students competed online to be among Florida's finalists to compete for the state title. The 2009 national LifeSmarts competition sponsored by the National Consumers League was held in St. Louis. State champion teams from across the nation traveled to the national competition to compete to become the national LifeSmarts champions.

Division of Standards Petroleum Inspection

The Department regularly conducts inspections of the petroleum distribution system and tests samples of alternative and petroleum fuels to ensure compliance with state quality standards. Inspections and testing ensure that consumers are being offered quality products at fair measure.

The Department's three petroleum testing laboratories routinely test the quality of gasoline, kerosene, alternative fuels, diesel and fuel oil through octane rating, distillation, vapor pressure, sulfur content, oxygenate content, lubricity, flash point, and other related analytical laboratory tests.



In fiscal year 2008-2009, 97.2 percent of the products collected and tested met state standards, which are considered among the strictest in the nation. The samples represent more than 10.4 billion gallons of alternative and petroleum fuels distributed throughout Florida. During this period, the Department issued 744 stop-sale orders to prevent the sale of more than 3,048,662 gal-

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lons of substandard or improperly labeled fuel.

During this fiscal year, the petroleum laboratories, located in Tampa, Tallahassee, and Port Everglades, conducted 143,670 tests on petroleum and alternative fuels and antifreeze and brake fluid products. Department petroleum field inspectors also conducted 223,885 inspections on retail motor fuel dispensers at approximately 9,107 retail motor fuel facilities throughout Florida. Petroleum field inspections included calibrating tests, proper installation and maintenance of measuring devices, price gouging investigations, testing for water and debris, verification of alternate generated electricity wiring and equipment, and correct labeling of motor fuel dispensers. As a result of these inspections, 3,962 motor fuel pumps were cited for improper calibration and 39,445 correction notices were issued for improperly maintained pumps.

The Department is also responsible for registering and monitoring antifreeze and brake fluid products sold in Florida. Laboratory personnel analyze antifreeze products for corrosion, freezing point, boiling point, and chemical content, and brake fluid products for boiling point, elastomer swelling, and chemical content before registering such products as suitable for sale to the public. During fiscal year 2008-2009, the Department registered 313 brands of antifreeze and 222 brands of brake fluid as acceptable products to be marketed throughout Florida.



The Department also handled 7,494 petroleum-related consumer- and pricing-related complaints as a result of posting the 1-800-HELP FLA consumer hotline decal on

motor fuel dispensers. Complaints were concentrated primarily on fuel quality, meter accuracy, and price. The petroleum inspection field staff works to respond to these complaints within 24 to 48 hours.

This past year the Department continued to inspect and monitor the more than 1,000 wholesale and retail motor fuel facilities that were required to have alternate generated power equipment and/or wiring installed to operate designated facility functions during an electrical outage. Affected facilities were required to install electrical transfer switches capable of connecting to backup electricity generators, which may be used to supply electrical power to facilities and supply available fuel to consumers during a disaster.

Renewable and alternative fuels continue to migrate further into Florida's motor fuel marketplace. Following years of preparation for such products, the Department's petroleum testing laboratories are now able to test such fuels entering the marketplace, ensuring compliance with state fuel quality standards and providing maximum consumer protection for consumers purchasing these new products. Revised standards have also been evaluated and adopted to ensure maximum consumer protection when purchasing these fuels.

The Department uses numerous fraud investigation techniques, including the deployment of undercover vehicles, to ensure that consumers receive fair measure from petroleum pumps. The unmarked vehicles have a specially designed and calibrated gasoline tank that enables a trained inspector to determine a pump's calibration without a service station operator's knowledge. The undercover vehicles have confirmed that most petroleum pumps in Florida are accurate and consumers are receiving fair measure.

Weights and Measures

The Department conducted over 72,000 inspections and accuracy tests on commercial weighing and measuring devices. Staff ordered 4,812 devices to be corrected because they were found to be out of compliance with adopted standards. Another 2,078 devices were taken immediately out of service because they were found to have excessive measuring errors. Commercial weighing and measuring devices include retail scales, prescription balances, livestock scales, truck scales, and taximeters.

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Department inspectors check the accuracy of net contents and labels of packaged goods, including food products, dry goods, household items, building and construction materials, gardening products, and hundreds of other products purchased daily by consumers and businesses in the state. In fiscal year 2008-2009, inspectors sampled lots representing more than 146,000 packages. Stop-sale orders were placed on over 26,000 packages that contained less than the stated contents or failed to provide the required information on the label. Many more packages were recalled or relabeled by producers as a result of Department inspections. A risk assessment procedure is employed that enables inspectors to more efficiently evaluate packages for compliance and target packages more likely to be in violation.

Inspectors randomly tested 11,727 items for price accuracy in 205 businesses, primarily grocery, department, discount, drug, building supply, and other retail stores. Overall results showed that 1.68 percent scanned at more than the posted price and less than 1 percent scanned at lower than the price advertised. Violations were corrected immediately, and 24 businesses that failed to meet the 98 percent national accuracy standard faced additional sanctions and testing.

In the state metrology laboratory, the state primary standards of mass, length, and volume were used in comparing and calibrating more than 8,190 mass standards used by state inspectors, laboratories, high-tech industries, and commercial scale repair agencies, as well as 744 test measures used to check the accuracy of gas

pumps and wholesale meters. The laboratory maintained its National Voluntary Laboratory Accreditation Program accreditation for providing traceable calibration services. The lab was one of the first state metrology laboratories to achieve this accreditation. In addition to providing Florida citizens, industries, and government agencies with calibration services, the lab performs special tests such as standardizing grain samples for use in testing moisture-determining equipment at commercial grain elevators. It also fabricates specialized measuring equipment needed by field staff in performing tests of devices and packages throughout the state.

Fair Rides Inspection

The Department has an amusement ride inspection program which, by reputation, is the most comprehensive of any state in the country. All amusement rides, except those at theme parks, which are exempt by law, are inspected and permitted each year by the Bureau of Fair Rides Inspection. Permanent amusement rides – those located at a fixed site – are inspected twice each year. Temporary amusement rides, such as those used by carnivals, are inspected each time they are moved or set up. Currently, there are 203 permanent locations and 161 temporary or traveling amusement ride companies operating in Florida.



To handle this workload, the Department has 15 inspection specialists who are stationed statewide to inspect and permit amusement rides. Department inspectors are constantly trained with recurring on-the-job training. Structured training seminars developed by the Depart-

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ment keep inspectors abreast of the latest information on over 1,000 different rides currently permitted for operation. In addition, continuing education seminars sponsored by the amusement industry, amusement ride manufacturers, safety organizations, and engineers or other subject matter experts keep inspectors current on the latest inspection techniques.

In fiscal year 2008-2009, the Department issued permits for 1,568 amusement rides and conducted 9,820 inspections statewide. Those inspections identified 20,380 deficiencies on those amusement rides, all of which were corrected before the rides were allowed to open for public use. The Department issued 306 stop-operation orders for unsafe, uninsured, or un-inspected amusement rides and 26 administrative complaints for violations and non-compliance. The Department also investigates accidents and mechanical failures involving amusement rides and, when appropriate, closes and impounds unsafe amusement rides. There were over 165 reportable accidents in fiscal year 2008-2009 that were fully investigated, analyzed, and used to develop preventive measures. Recently, the bureau revised and updated its database to compile accidents, violations, mechanical defects, and consumer complaints in order to provide a comprehensive amusement ride company profile for use by the public.

The Florida Amusement Device and Attraction Advisory Committee was created in 1991 by the Commissioner of Agriculture to advise and consult with the Department on amusement ride issues. The committee, which is appointed by the Commissioner, includes a cross-section of members from the amusement industry, fair industry, amusement parks, and technical or subject matter experts. This committee holds at least two public meetings annually to discuss safety issues, ride inspections, ride equipment, industry concerns, and other matters in support of the Department's inspection program.

Each year, the Department participates in a consultation program with the large theme parks in Florida on safety issues. Department staff visits each of the parks and reviews safety, maintenance, and operation procedures of the park rides. Furthermore, the theme parks file an affidavit of annual inspection on all their rides. The Department is a member of the American Society of Testing and Materials, Committee F-24, which develops stan-

dards for the manufacture, fabrication, performance, and testing of amusement rides and devices. The Department is also a member of the Council for Amusement and Recreational Equipment Safety (CARES), which is a national association of government regulatory officials that shares information among members and works with the U.S. Consumer Products Safety Commission on amusement ride issues.

Liquefied Petroleum Gas Inspection

The Bureau of Liquefied Petroleum (LP) Gas Inspection is charged with the regulation of LP gas usage, storage, distribution, handling, and transportation from the time the product enters the state until it reaches its final point of consumption. There are over 3,500 storage and distribution facilities in the state which handle approximately 400 million gallons of propane annually. At any given time, there is approximately 20 million gallons of storage contained in these facilities.



During fiscal year 2008-2009, the bureau conducted 10,733 facility inspections and issued 12,970 licenses. The numbers in these categories are nearly double what they were 10 years ago. The bureau investigated 26 LP gas-related accidents (down from 44 the prior fiscal year), and took 4,313 enforcement actions to ensure compliance with safety regulations (as compared to over 8,000 during fiscal year 2007-2008), including the issuance of 1,154 notices of noncompliance and 2,597 cease-and-desist notices. Reductions in these latter numbers are testament to the dedicated work being performed by the bureau's staff, including 11 field inspectors, who work closely with both consumers and

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industry professionals to increase awareness of, and compliance with, applicable laws, rules, and safety regulations.

In carrying out its goal of ensuring that LP gas is utilized safely, the bureau continues to develop and administer competency examinations to persons interested in engaging in LP gas-related activities. Over 935 examinations were administered during fiscal year 2008-2009. In addition, the bureau conducted over 51 classes dealing with safety training for dispensing unit operator personnel, building officials, and pipeline distribution system operators. In May 2009 the bureau co-sponsored the annual Ocala Safety School, which had 87 participants. Each year this weeklong school draws attendees from all over the world. Five bureau personnel, including four of its inspectors, taught classes at the Safety School. The school covers, in only one week, the procedures, equipment, testing, safety codes and laws, rules, and regulations needed to pass the state licensure examination, which is administered at the end of the week. This year, 24 of 49 students, or 49 percent, passed all parts of the examination on the first test administration. In 2008, 48 of 94 students taking the examination, or 51 percent, passed all parts of the exam upon initial administration. Although this year represents a slight decline in the percentage of students passing the exam the first time, the large decline in the overall number of attendees may have contributed to this result. Each year, students are asked to comment on the quality of the instructors and course content. As in past years, the bureau's inspectors garnered the highest instructor marks, with most attendees commenting on the inspectors' professionalism, knowledge, and ability to communicate in the classroom setting.

In addition to carrying out the regulatory duties prescribed in Chapter 527, F.S., the bureau is charged with administrative oversight for the Florida Propane Gas, Education and Safety Research Act. Under this Act, a regulatory monetary assessment is collected annually from the propane gas industry to fund programs for training, education, consumer safety, marketing, research, and development programs relating to the propane industry in Florida. In conjunction with this program, the Department maintains a consumer information web site and publishes and distributes thousands of consumer safety brochures relating to home heating safety, safe grilling,

general safety practices, and the reporting of gas system changes to gas suppliers. For example, the bureau distributed detailed alerts warning consumers as to the use of LP gas cylinders that may have been contaminated via contact with anhydrous ammonia, which is utilized in the production of methamphetamine. Alerts were sent to consumers both through mail-outs and the bureau's web site.

Other activities of note during the 2008-2009 fiscal year include the following:

- Participated in multiagency meetings to address Chinese drywall issues plaguing many Florida homes and provided guidance and expertise on remediation of drywall problems in regard to propane systems.
- Continued to improve on and promote the e-commerce web site for online licensing, training, and examination registrations. The web site has allowed the bureau to shorten by at least two weeks the typical time frame involved in processing licensure renewals. This is important because all licenses expire on the same day each year, creating a bottleneck.
- Worked with local building and permitting officials to enforce statutory guidelines and ensure code compliance in the growing home and commercial generator market.
- Participated on the Florida Propane Gas Association's Codes and Standards Committee and the Safety and Education Committee, to address safety code and training issues in Florida.
- Conducted training of fire safety officials and building officials in counties throughout Florida. Included were individuals from the North Florida Fire Prevention Association, whose members represent the fire marshals' offices in fifteen counties.
- Conducted gas systems and operations seminar at Nova University for the South Florida Builders' Association.
- Conducted inspections of approximately 300 cylinder installations at the Florida State Fair.
- Worked with industry officials in establishing standards to allow Temporary Emergency Distribution Sites (TEDS), or temporary emergency staging areas, to be

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set up where propane can be purchased immediately following an emergency situation, such as a hurricane. TEDS will be set up in populated areas directly impacted by natural disasters and other emergencies to ensure that consumers are able to purchase propane for emergency generators and other important home uses.

- Conducted LP gas safety seminar at the annual Florida Spa/Pool Association meeting.

- Trained county public school maintenance staff in Orange and Osceola counties and provided licensure examinations for all maintenance staff in the Duval County School System; continued to co-inspect LP gas systems on school properties with various county school board technicians.

- Conducted inspections with Walt Disney World officials and provided training to Disney staff in regard to LP gas safety and operations.

Division of Licensing

Overview

The Division of Licensing safeguards consumers and enhances the general welfare of the citizens of the State of Florida through its administration of two distinct licensing programs.

Under the authority of Chapter 493, F.S., the division regulates the private investigative, recovery, and security professions in Florida. The licensees who work in these regulated professions serve in positions of public trust. Therefore, it is in the public interest that individuals seeking employment as private investigators, recovery agents, or security officers be properly trained and undergo criminal history background checks prior to licensure, and that the business practices of the agencies in these industries be consistent with the public good. The division's licensing and regulatory controls provide for ongoing compliance by individuals and agencies in the regulated professions.

Under the authority of Section 790.06, F.S., the division administers the provisions of Florida's concealed weapon licensing law, issuing licenses to qualified, law-abiding individuals to carry concealed weapons and firearms for purposes of lawful self-defense. Implement-

ed in October 1987, Florida's concealed weapon licensing program is the oldest such program in the nation. In carrying out its statutory responsibility, the division applies the statewide uniform standards enacted by the Legislature for the issuance of concealed weapon licenses, and ensures that no honest, law-abiding citizen who qualifies for a license is denied his or her constitutional right to bear arms for self-defense.

Benchmarks and Achievements

Despite the challenges that affected Florida's economy throughout the past fiscal year, there was growth in the regulated professions. Individual and agency licensees totaled 152,507 at the end of the fiscal year, up from 142,476 licensees a year ago.

An astonishing increase was seen in the number of applications received for the Florida Concealed Weapon or Firearm License. The division received 295,970 new and renewal applications during fiscal year 2008-2009. In fiscal year 2007-2008, the division had received 191,840 applications, and in the year prior to that the division received 176,937 applications. By the end of the year, the total number of valid licenses was just under three quarters of a million.

In the 22 years since the inception of the concealed weapon-licensing program, the demand for concealed weapon licenses has generally trended upward, and the number of concealed weapon license holders has steadily grown each year. However, in recent years, the demand for concealed weapon licenses and the number of citizens holding valid licenses has risen to unprecedented levels, as indicated by the statistics below.

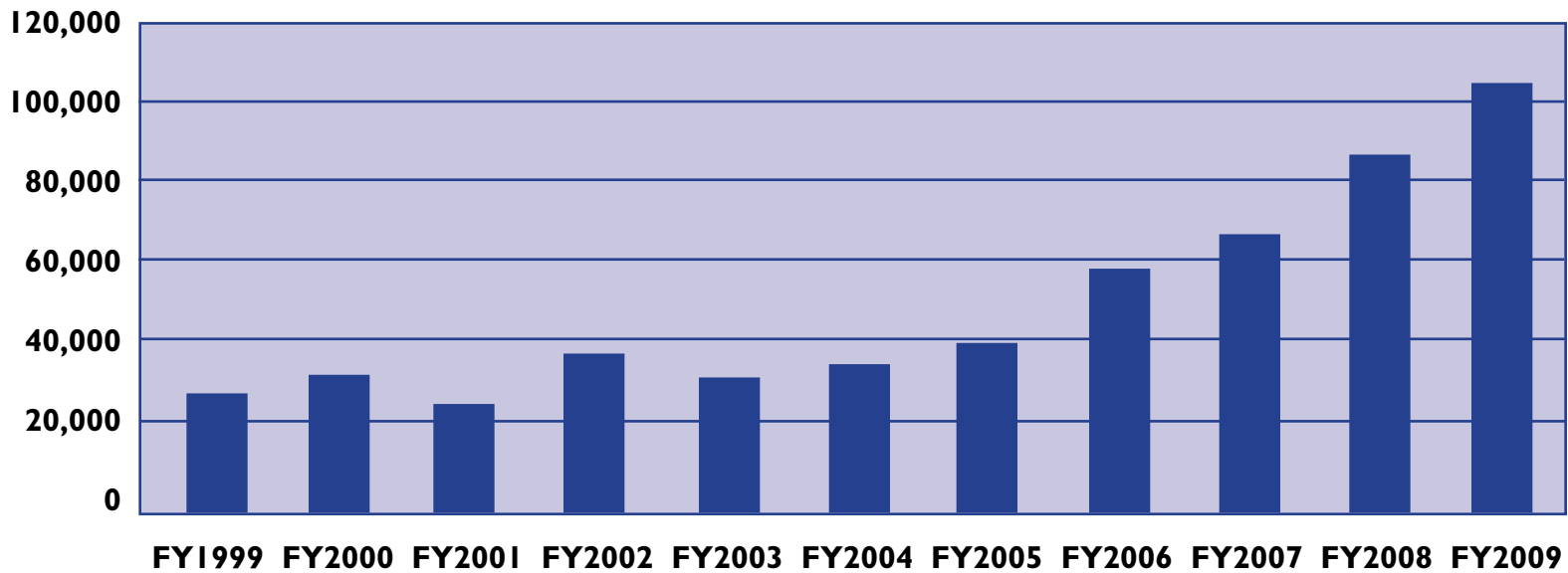
- Ten years ago, in fiscal year 1998-1999, the Division of Licensing issued 26,807 new concealed weapon licenses. The total number of valid license holders at the end of that fiscal year was 235,532.

- In fiscal year 2008-2009, the division issued 103,699 new concealed weapon licenses. As of the end of last fiscal year, there were 591,830 concealed weapon license holders in the division's records.

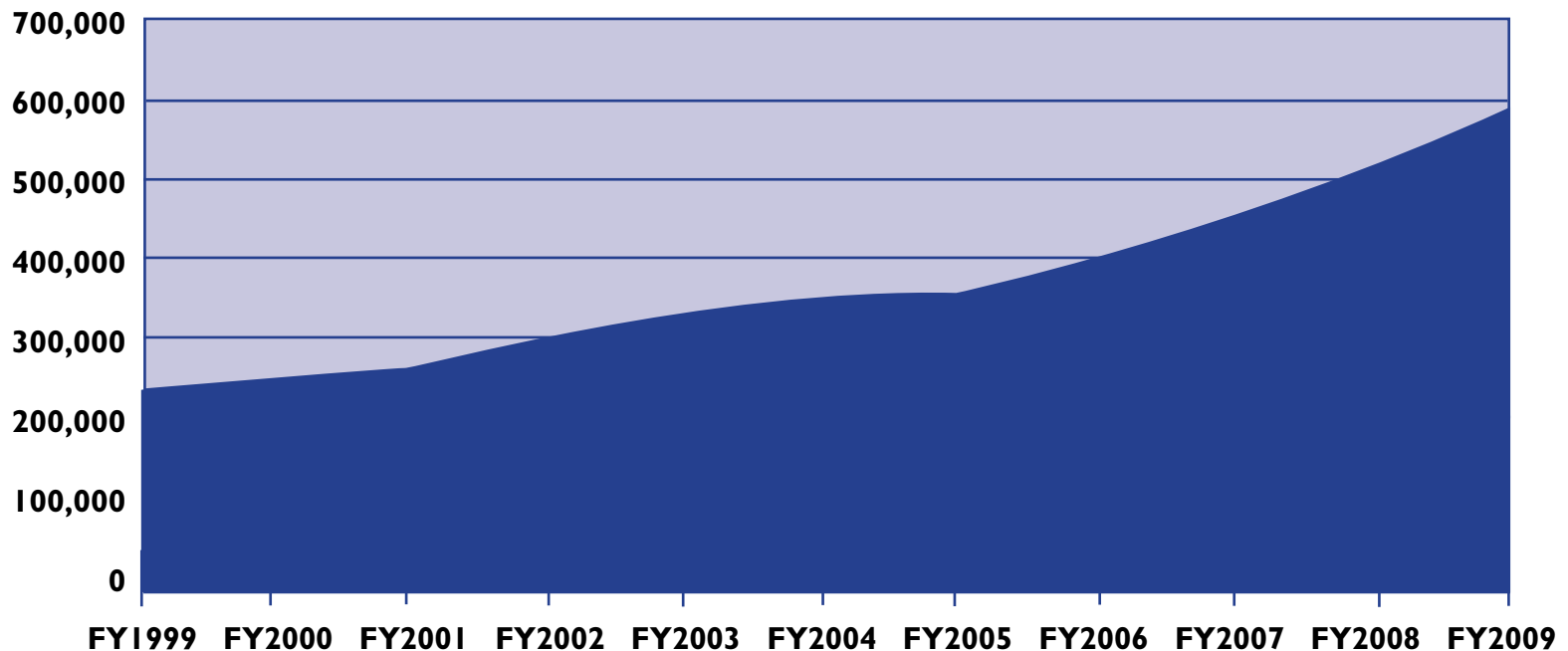
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The following charts depict the surge in the demand for concealed weapon licenses and the rise in the number of concealed weapon licensees, particularly in the last five years.

NEW CONCEALED WEAPON LICENSES ISSUED



CONCEALED WEAPONS LICENSE HOLDERS



With so many incoming applications, the division's Public Inquiry Section responded to a record number of telephone calls last year. Incoming calls totaled 389,431 for the year, an average of almost 7,500 telephone calls weekly, compared with 301,427 incoming calls the previous year. The division's Compliance Section received 40,834 calls last year, very close to the previous year's

total of 43,507 calls. Unfortunately, staffing levels were insufficient to adequately handle the number of incoming telephone calls in either the Public Inquiry Section or the Compliance Section, resulting in long wait times and many dropped and abandoned calls.

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In its efforts to prevent unlicensed and unlawful activity in the regulated industries, the division's Bureau of Regulation and Enforcement (BRE) conducted 1,447 complaints against individuals and agencies. BRE investigators also performed 3,983 compliance inspections. Because the division had no additional staff and resources to devote to these investigative activities, the number of complaints investigated and compliance inspections conducted remained relatively unchanged from the previous fiscal year.

The division's Legal Section completed 30,431 administrative actions in fiscal year 2008-2009. This number is almost unchanged from the 29,841 administrative actions completed in fiscal year 2007-2008.

Improving Levels of Service


The division's level of service declined in 2008-2009 because of the workload and staffing challenges that persisted throughout the year. However, by the end of the year the division had made significant progress in reducing the backlog of pending applications. This progress can be attributed to several causes.

First, the division was granted budget authority to hire additional temporary staff beginning in November 2008 and to begin working overtime hours in January 2009. A large pool of temporary employees had been brought on board by early spring, and division employees responsible for application processing began regularly working six days a week in January, a rigorous schedule that was to continue for the remainder of fiscal year 2008-2009. Moreover, other divisions within the Department graciously lent some of their employees to the Division of Licensing to assist in opening and sorting the dozens of tubs of incoming mail that were arriving weekly during the early part of 2009.

As the fiscal year ended, the division was making plans to continue improving its level of service in 2009-2010. Division staff was testing and refining a new program scheduled for implementation in the fall of 2009. Under the new program, the division's eight regional offices will provide full intake service for new concealed weapon license applications, in addition to providing their usual services to the applicants and licensees in the regulated industries. Thus, a person wanting to apply for a new concealed weapon or firearm license can make


an appointment at a regional office and complete the entire application submission process at that facility. This service will dramatically reduce the number of errors or omissions that frequently occur when the application is submitted and which lengthen the time it takes to finalize the process.

Moreover, the division was proceeding with its plan to integrate an interactive voice response (IVR) into the Public Inquiry Section's telephone service. The Legislature appropriated funds for the implementation of an IVR system during the 2009 session. The IVR is an automated system that will give an applicant or licensee the ability to obtain current information concerning the status of an initial or renewal application simply by calling the division's telephone line and supplying identifying information to the system. The caller will be able to enter his or her identifying information by way of the telephone keypad or by voice. This will benefit concealed weapon licensees and applicants, as well as licensees and applicants in the regulated professions.




DIVISION OF LICENSING


The Division of Licensing protects the public from unethical business practices on the part of persons providing private security, private investigation and recovery services to the public through licensure and regulation of those industries pursuant to Chapter 493, Florida Statutes. The Division is also responsible for the issuance of Concealed Weapon or Firearm Licenses in accordance with Section 790.06, Florida Statutes.




Private Investigation



Recovery



Security



Concealed Weapon or Firearm License

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Florida Department of Agriculture and Consumer Services

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Training and Development

The Florida Department of Agriculture and Consumer Services provides Florida's citizens and agriculture industry with service and protection by means of its highly qualified employees. To maintain that level of quality, the Department provides its employees with numerous training, educational, and recognition opportunities. The result is a superior workforce that performs by the motto of "personal commitment and professional pride."

Training

Upon hiring, and throughout an employee's career with the Department, training is made available to increase the employee's knowledge, skills, and abilities. This year, a total of 810 employees participated in Department-wide training classes. These classes included fundamental and critical topics such as New Employee Orientation, Team Building, Stress Management, Time Management, Diversity, Leadership, Department Supervisory Standards, Conflict Resolution, Meetings Management, Train-the-Trainer, Advanced Train-the-Trainer, CPR/AED, and various software titles. The Training and Development Section also assisted other divisions with their training design, development, and evaluation needs.

Intranet and online (via WebEx) training sessions were implemented to supplement classroom attendance. Initially this enabled the Department to provide more immediate access to training for its new employees and newly appointed supervisors. With the advent of travel restrictions, additional topics were incorporated, providing employees with a format to continue their work skills development.

The Training and Development Section works in conjunction with the Bureau of Personnel Management to provide many of the training sessions identified above, especially New Employee Orientation and Supervisor Skills training. In addition, the Bureau of Personnel Management also trains staff in a variety of topics on an ad-hoc basis as needed. Topics include performance appraisals, attendance and leave, Americans with Disabilities Act, and benefits.

Education

The Department encourages and supports continued education and personal development. This past fiscal year, 13 employees continued their education by taking work-related classes that qualified for tuition reimbursement from the Department. An additional 134 employees participated in the state's tuition waiver program. These employees further developed their ability to contribute to the Department by taking classes at universities, community colleges, and technical centers throughout the state.

A total of 28 Department managers participated in the Certified Public Manager Program. This two-year program is a systematic approach to training and developing governmental administrators in order to improve their performance and the performance of government. The Center for Public Development has revised its graduation schedule so that it will occur in August 2009. The Department continues to have 188 managers on staff that have successfully completed the program and received the designation of Certified Public Manager. There are an additional 30 employees who have completed Phase II and qualified to join the ranks of CPM graduates in August 2009. The knowledge gained by these managers provides a framework for continued quality leadership throughout the Department.

Awards

The Department not only encourages lifelong learning, it rewards those who make exemplary achievements. Fifteen nominations were successfully submitted for a Prudential Financial Davis Productivity Award, detailing the extraordinary efforts of 99 individuals. The dollar benefit to the state and its citizens is estimated to have been approximately \$62.7 million, all as a result of these employees' initiative and hard work.

The Department also recognizes employees for their length of service. Approximately 585 employees were awarded certificates for their continued service to the Department.

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Minority Businesses

The Department spent approximately \$8.9 million with certified minority businesses during the 2008-2009 fiscal year. The Department continues to be one of the leading agencies in minority spending. As a state agency the Department strives to make minority business spending a priority.

Agriculture Management Information Center (AGMIC)

Disaster Recovery Planning and Testing

AGMIC performed its annual exercise of the recovery of computer applications residing on hardware platforms which AGMIC maintains. This Disaster Recovery Plan (DRP) test was performed May 15-17, 2009, at SunGard's Carlstadt, New Jersey, facility, the same hot site utilized for the last four DRP tests. This was a coordinated effort between AGMIC and division staff that tested the applications remotely in Tallahassee. As in past exercises, Virtual Private Network (VPN) technology was utilized to prevent an interruption of production processing. This allowed for remote testing between the New Jersey facility and the Disaster Recovery Lab located in the Nathan Mayo Building. The production VMware environment, which has been utilized to virtualize Department servers, was restored during this test. This year's test included the recovery of the following applications:

- Administration: E-Gov System (EGC)
- Office of Ag Water Policy: Best Management Practices Tracking System (BMPTS)
- Office of Ag Water Policy: Contract Management System (CMS)
- Office of Ag Law Enforcement: ACISS Case Management System (ACISS)
- Office of Ag Law Enforcement: Commercial Transport Imaging System (CTIS)
- Animal Industry: Virtual Laboratory System (VLAB)
- Consumer Services: Consumer Services E-Commerce System (CS-EGOV)
- Forestry: Forestry Management Timber Sales Contract System (FM SALES)
- Marketing and Development: Simmons/Food Distribution System (SIMMONS)
- Marketing and Development: License and Bond System (LBL)

All of these applications had documented recovery plans and had been either tested in the test laboratory or previously restored in a prior test. This practice allowed for additional findings and remediation, along with properly documenting the application's recovery steps. These recovery materials and documentation were then put to test under disaster recovery conditions in the SunGard New Jersey hot site during the annual test. Division users performed a documented verification from the Disaster Recovery Lab in the Nathan Mayo Building. All applications were fully recovered; however, one application could not be verified during testing due to issues with the application. This application was retested successfully in the Disaster Recovery Lab after the test.

Technology Policy Compliance Project

Beginning in fiscal year 2008-2009, a joint consulting project was formed between the Division of Administration and the Office of Inspector General (OIG) to assess compliance with select Department information technology (IT) policies and procedures. A methodology was established for assessment of these critical policies and the identification of key vulnerabilities.



Phase One of the project identified the key vulnerabilities by obtaining input from the divisions' Information Security Administrators (ISAs) and the Department's Information Security Manager. After vulnerabilities were identified, the Office of the Inspector General (OIG)/Ad-

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ministration presented these findings to the Information Technology Resource Steering Committee (ITRSC). After the briefing at the ITRSC, the project team from OIG and Administration presented executive management with the list of vulnerabilities and received buy-in for the vulnerabilities selected for review. The next step for the project team was to request volunteers to assist in reviewing the policies and procedures associated with the vulnerabilities. This group of staff had several meetings to review policies and recommend changes to existing policies. The review of policies is continuing, with some policies such as the change management policy requiring significant restructuring. After all policies have been reviewed, the next step will be to brief the division ISA with the recommended policy changes. The last step of phase one will be to brief the ITRSC on the recommended modifications to policies and procedures.

Phase two will occur in fiscal year 2009-2010. The first step will be to assess the Department's status of policy compliance for the selected key areas of vulnerability. Next, a timeline will need to be established with the divisions to fix vulnerabilities based on the assessment results. The ITRSC and executive management will need to be briefed again on the timelines established to fix vulnerabilities, and to obtain approval of proposed timelines. The next step will be to reassess the Department's status on the key areas of vulnerability and report the results of the assessment. During this phase it will be necessary to have more frequent reporting to the ITRSC and the executive management regarding the status of fixes applied to identified vulnerabilities.

Continuity of Operations Plan (COOP)

The Division of Administration conducted a multi-day Continuity of Operations Plan (COOP) exercise in June 2009, including notification of employees, deployment of the division's Emergency Management and Division Response Teams to the Local Alternate Facility (LAF), and validation of its LAF operating plans. The Division of Administration's operational readiness is vital to the Department in the event of a COOP emergency since the Division of Administration is the personnel, fiscal, contracting and information technology support branch for the entire Department.

Each COOP exercise reinforces the importance of ensuring that business operations can continue unabated

despite an event rendering a COOP facility unusable. All business areas were able to perform to expectations without any disruption of services to the Department.

Office of Inspector General

The Office of Inspector General (OIG) is established in accordance with Section 20.055, Florida Statute. The OIG provides a central point for coordination of and responsibility for activities that promote accountability, integrity, and efficiency in government.

The mission of the OIG is to protect and promote public integrity and accountability within the Department through audits that detect fraud, waste, and abuse and through investigation of administrative and criminal violations. The goal of the OIG is to decrease the recurrence of such violations through employee awareness and cooperation while providing the Department with a timely, accurate, objective and useful work product. The OIG also strives to enhance public trust.

The OIG is comprised of two sections to accomplish these responsibilities. The following provides detailed information about each section's responsibilities:

Auditing Section

The internal auditing activity provides independent, objective assurance and consulting services to add value and improve the Department's effectiveness at risk management, control, and governance processes. An assurance service is an objective examination for the purpose of providing an independent assessment or opinion in regard to the particular engagement's objectives. A consulting service is an advisory and client-assistance service, the nature and scope of which is agreed upon with the client for each particular engagement.

Internal audit activities are performed in accordance with the General Principles and Standards for Offices of Inspector General and International Standards for the Professional Practice of Internal Auditing as published by the Association of Inspectors General and the Institute of Internal Auditors, respectively. Audit projects involving information technology are also conducted in

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accordance with the Information Systems Auditing Standards as published by the Information Systems Audit and Control Association.

During fiscal year 2008-2009, 10 assurance engagements were conducted covering performance measures, the Florida State Fair, fraud data analysis, and regulatory enforcement actions. The Auditing Section also participated in 13 consulting services and coordinated 17 external audits or reviews by federal and other state agencies.

Investigation Section

The investigation section conducts inquiries and investigations into administrative and criminal complaints. These complaints are received from a wide variety of sources, both inside and outside the Department. OIG cases are categorized into three types:

1. Preliminary inquiries, which may be conducted in circumstances when it is necessary to determine the validity of a complaint prior to the initiation of a formal investigation.
2. Inspector General investigations, which are formal investigations conducted in accordance with Florida Statute and/or Department policy and procedures.
3. Assist other agency cases, which involve investigative assistance to agencies or law enforcement officers external to Department operations.

The key investigative responsibilities of the OIG are to initiate, conduct, supervise, and coordinate investigations designed to detect, deter, prevent, and eradicate fraud, waste, mismanagement, misconduct, and other abuses in state government by:

- Receiving complaints and coordinating all activities of the agency as required by the Whistle-blower's Act pursuant to Sections 112.3187-112.31895, F.S.
- Receiving and considering the complaints which do not meet the criteria for an investigation under the Whistle-blower's Act and conducting, supervising, or coordinating such inquiries, investigations, or reviews as the Inspector General deems appropriate.

– Conducting investigations and other inquiries free of actual or perceived impairment to the independence of the Inspector General or the Inspector General's Office. This shall include freedom from any interference with investigations and timely access to records and other sources of information.

During fiscal year 2008-2009, the Investigation Section carried 11 cases over from the previous year, opened 92 new cases, closed 93 cases, and carried forward 10 cases to the next fiscal year.



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